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ARGENTINE PASTURES AND THE CATTLE-GRAZING INDUSTRY . . . . .

By Paul O. Nyhus*

From colonial days the broad plains of the Argentine have produced large numbers of cattle, but there was little incentive to improve their quality or the natural pasture grasses until about 1900 when refrigeration opened up the European markets for frozen and chilled beef. Thereafter, improved pastures, especially of alfalfa, began to play an important part in the industry. The expansion of grain farming has made great inroads on the pasture acreage in some zones; but pastures remain the primary resource of the country, and cattle grazing still competes successfully with grain farming for land even in the heart of the main cereal zone. At present the fattening of steers for the European market depends chiefly upon the excellent alfalfa pastures. Improvement and more intense utilization of the present pasture lands provide ample opportunity for expansion in the cattle industry.

HISTORICAL SKETCH AND PRESENT STATUS

In the history and development of the grazing industry of Argentina the year 1900 is of outstanding significance. This was the year when artificial refrigeration began to be applied in some volume to ocean shipments of beef. This development, which was some 10 or 15 years in being perfected, opened up the European market for Argentine beef; and from this time on livestock and grazing developments with respect to both quantity and quality of production were influenced by the market requirements of Europe.

About 300 years of Argentine history, however, preceded the development of the important export trade in meat. A brief sketch of the colonial period, ended in 1810, and of the subsequent early Republican period is indispensable to an understanding of the far-reaching developments that occurred after 1900 and of the present status of pastures and the grazing industry in Argentina.

When Pedro de Mendoza founded Buenos Aires in 1535, he brought with him 62 horses.[1] The colony was abandoned, but on the second settlement of the city in 1580 the new settlers were surprised to find large numbers of wild horses on the flats bordering the River Plate. These settlers from Asunción, Paraguay, brought with them cattle that had originated in Brazil. Sheep from Peru were brought to Tucumán in 1550, but a lot introduced in 1587 is considered the origin of the "countless thousands that wandered over the Pampa and, uncared for, multiplied for well-nigh two and a half centuries." Livestock was pastured around all of the early settlements in the northwest, but as time went on grazing became most important in the alluvial land bordering the Paraná and Uruguay Rivers and on the rich prairies on either side of the River Plate estuary. References to stray cattle appear early in the historical records of the River Plate Colony.

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[1] Background for this historical sketch and quotations contained herein are drawn largely from "La Evolución Ganadera," by Herbert Gibson in *Monografías-Censo Agropecuario National en 1908.*

It appears that there was some trading with foreign ships in hides and tallow at an early date. An account of a voyage made in 1658 to the River Plate refers to Dutch and English ships returning home loaded with hides and vicuña wool and reports that the plains were "covered" with cattle. Similarly, an account 70 years later speaks of the "incredible" number of cattle, of which "everyone is allowed to take as many as he wishes provided this does not exceed 10 or 12 thousand."

There was actually little change in the cattle industry from 1650 to 1800: horses and cattle multiplied in a completely wild state throughout the present Pampa region, and Indians hunted and traded cattle with Chile. The wild dog was the herd's worst enemy at that time and was not exterminated until 1860. Although in much smaller numbers, sheep also increased; but they were of little profit to the colony. Only a few were killed and the wool pulled. Cattle and horse hides were the leading items of trade. The contraband traffic was probably greater than legal operations because of the restrictions thrown around trading and exports by the Spanish Government. By 1800, exports of cattle hides to Spain probably totaled close to a million. Salting plants and rendering plants had been constructed a few years earlier and jerked (salted) beef and refined tallow began to appear as export items. See tables 3 and 4, pages 29 and 30.

SIGNIFICANT DEVELOPMENTS AFTER INDEPENDENCE

One of the causes of the Argentine revolution of 1810, or War of Independence, was the desire to trade freely; and, when this desire was realized with the success of the revolution, stimulus was given to livestock raising in the River Plate region. The development of the estancias was adversely affected, however, by internal conflict and foreign complications, which were not removed until 1852 when the dictator Juan Manuel de Rosas was expelled from the country and a constitutional government set up. Events occurred in this period, however, the fruits of which became especially evident after 1852.

The estanciero, described as uniting "all the skill of the gaucho with the intelligence of a class born to lead," had already made his appearance in the latter part of the colonial period and was steadily bringing about an orderly system of management and use of the livestock of that time. Not only were they pioneers in the grazing industry but they led in the campaigns that pushed the Indians farther and farther back until in about 1880 the Pampa was made safe from attacks. The gaucho, the counterpart of the American cowboy, was described as "a skillful and wise rider and at heart an Arab and a nomad of the plains," who knew how to tame and handle wild herds of cattle and horses.

Although the first importation of merino sheep was probably in 1794, the next shipment, made in 1813, is accredited with introducing and distributing the merino breed in Argentina. It is estimated that at that date the number of sheep did not exceed 3 million head. An interest in crossbred sheep developed; and a beginning was made in exports of wool, until the end of the century the leading item in the Argentine export trade. In 1842, rendering plants for sheep were built, and to the value of sheep skins was added a remunerative and stimulating price for the carcasses. In 1860, the Lincoln breed was introduced. See tables, pages 28 and 29.

Progress was made with respect to domestication of stray herds of cattle; but, because native 4- and 5-year-old steers possessed all the qualities required by an industry limited to the exportation of hides, tallow, and jerked (salted) beef, an incentive to cattle improvement did not exist. The argument of the estancieros of that day against improvement is thus stated: "The salting plant is our only market and it demands a 5-year-old steer with a thick hide and poor flesh so as to be easily salted." The salting industry increased steadily to a peak volume of exports in 1895 and continued to be the main export outlet for beef until 1900. Exports of cattle hides continued to grow in volume. See table 4, page 30.

In 1844, the use for the first time of wire fencing in enclosing estancias, which previously had only sparingly employed ditches for marking boundary lines, introduced a new factor into their organization and into the management of cattle. After about 1880, when grain acreages began to expand, the use of wire fencing developed rapidly.

In 1866, the Argentine Rural Society was organized by a small group of far-sighted and enterprising leaders. Its influence and leadership in sponsoring improvements in both the livestock and the grain industries became far reaching, and some Argentineans contend that the formation of the society marked the beginning of modern agriculture in Argentina.

The first purebred Shorthorn bull was introduced into Argentina in 1840, and further and more substantial importations were made of purebred Shorthorn bulls and cows from 1850 to 1860. These animals provided the foundation stock for the early improvement of the native cattle.

Although a beginning was made at this time, there was still little incentive to cattle improvement, and it did not become general until after 1890 or 1900. At that time access by means of refrigerated shipments to the English market and the English demand for a better market type of cattle provided a commercial objective. After that date importations of purebred bulls from England and Scotland and the determined efforts of estancieros resulted in such sharp and general improvement that it would be difficult to parallel the accomplishment in any other country.

EFFECT OF RAILWAY CONSTRUCTION

In the early days of the River Plate Colony, wheat flour was imported, and it was not until about 1875 that a grain acreage located close to the river settlements provided the Republic with practically all of its wheat requirements. The grain and flax acreage made only slow progress until the Indians had been pushed back and railways opened up the interior. Railway construction, which began in the seventies, was especially active in the eighties, and by the end of that decade it had furnished the present Cereal and Livestock Zone with an adequate network of railway transportation. Most of the land some distance away from the river provided such poor native pasture that, given transportation facilities and market outlets, their use for grain or alfalfa was inevitable.

Annual immigration exceeded 100,000 for the first time in 1885. Great inroads began to be made on pasture lands in many parts of the present Cereal and Livestock Zone. The use of sheep lands for wheat and alfalfa is suggested by the decline of sheep numbers in the Pampa from a peak of 58 million in 1895 to 21 million in 1913. Exports of corn and wheat did not permanently exceed 1 million metric tons annually until about 1900.

The earliest alfalfa acreage in Argentina was located in the Provinces of Mendoza and San Luis on irrigated land and used as pasture or feed for cattle en route to markets in Chile. The native pastures immediately away from the fertile wet lands bordering the Paraná River did not provide good pastures; and, when in the eighties it was discovered that alfalfa thrived especially well on the lighter well-drained soils in the western part of the present Cereal and Livestock Zone, progressive estancieros in this region became interested in the growing of alfalfa for fattening steers for market.

The livestock industry thus played a part in introducing grain farming on many tracts in the west. Enterprising estancieros, eager to have the prairie broken up in order to sow alfalfa, induced colonists onto their tracts of land to grow corn and wheat, rent free for several years, whereupon the land was sown to alfalfa. Presumably the practice of giving the use of the land to farmers without rent did not continue long, since soon after the construction of railways grain farming became established on a competitive and permanent basis. As late as 1895, the area in Argentina sown to alfalfa did not exceed 1,759,000 acres, of which only 398,000 acres were located in the Province of Buenos Aires. By that time the demand for fat cattle was beginning to exert some influence on the alfalfa acreage, but a major stimulus to expansion awaited the opening up after 1900 of the market for fat cattle by shipments of frozen and chilled beef. See table 3, page 29.

REFRIGERATION AND EUROPEAN MARKETS

A few years after the invention of the Tellier system of artificial refrigeration in 1872, frozen beef was shipped in growing volume from the United States to England, but there followed about 10 years of trials and experimentation in the application of refrigeration to meat shipments crossing the Equator. The first freezing plant was built in Argentina in 1882, and shipments thereafter of frozen lamb and mutton became a successful and established practice. Shipments began with 17,565 carcasses in 1883, rose to 108,823 in 1884, and reached 1,000,000 in 1899.

Success in shipping frozen beef in any volume from Argentina was delayed until about 1900, and as late as 1908 jerked beef provided an important export outlet for beef. In the meantime, efforts were made to ship live cattle; and in some years prior to 1900, when the trade came to a sharp decline with the closing of the British market due to an outbreak of foot-and-mouth disease in Argentina, cattle shipments reached 100,000 head. See table 3, page 29.

The development of frozen- and chilled-beef exports from Argentina is inseparably related to the growth of population and the disappearance of exportable supplies in the United States and to increased meat requirements in England and on the Continent that resulted from industrial expansion. In 1903 the exports of frozen and chilled beef from the United States to England reached 298 million pounds. Although showing a declining tendency, these exports were fairly well maintained until 1907; but in 1908 they fell off sharply and continued to drop until in 1912 they practically disappeared.

The Argentine export trade followed an opposite course. Exports increased from 3 million pounds in 1895 to 53 million pounds in 1900. After that date the expansion was rapid: 330 million pounds in 1905, 548 million pounds in 1910, 1,071 million pounds in 1918, and 1,315 million pounds in 1924. An almost complete shift from chilled- to frozen-beef exports took place during the war, but chilled-beef exports assumed their leading place a few years after the war. From the high level of the period 1924 to 1927, exports declined in 1928 and reached the low average of 839 million pounds for the years 1933 to 1935. From this low level there was a recovery in 1938 to 981 million pounds.

Of even greater importance than the expansion in exports of frozen and chilled beef and other packing-house products in providing a market for an increased production of beef has been the expansion in domestic consumption. Per-capita consumption of beef is especially high in Argentina, and the population has grown from 4,607,000 in 1900 to 12,761,000 in 1938. As a result, at the present time about 70 percent of the estimated slaughter is believed to be for domestic consumption. The production of dairy products not only has kept pace with the growth of population and domestic requirements but has attained an export status for butter, cheese, and casein.

With the completion of railway lines into the interior and with heavy immigration, which reached 379,000 in 1912, the expansion that took place in grain farming and alfalfa acreage after 1895 might be difficult to duplicate in the history of any other country. The grain and flax acreage trebled from 1895 to 1910, and the alfalfa acreage rose to 11,532,000 acres, or more than six times the 1895 area. Nor did expansion stop here. As the packing industry became more firmly established - particularly after 1907 when American packers brought to the Argentine their experience and capital and provided more competitive conditions in the buying of cattle - the demand by packers and the premiums paid for well-bred fat cattle stimulated both the improvement of cattle and the growing of alfalfa on which to fatten steers. As the market outlet in England and the Continent continued to expand, the alfalfa acreage in Argentina was also extended. A peak alfalfa acreage of 20,695,000 acres was reached in 1922 - almost double the 1910 acreage - corresponding very closely with the peak in the exports of frozen and chilled beef from Argentina.

In recent years some major shifts in the grain and livestock industries have occurred. During the World War, prices of cattle were considerably better than of grain, with the result that the grain industry declined and the cattle industry continued to expand. Cattle numbers rose from 26 million head in 1914 to 37 million in 1922. With a sharp break in cattle prices in 1924, however, and with prices of grain relatively better from 1923 to 1928, the grain acreages not only recovered their pre-war level but expanded 40 percent from 1924 to 1929. Pasture lands were turned over to tenant grain farmers in this period, and cattle numbers declined to 32 million according to the 1930 census. Since 1930 there have been trends in crop and pasture acreages in different localities, but for the country as a whole the grain and livestock industries appear to have maintained quite a stable relationship to each other. The 1937 census reports 33 million head of cattle, and the total grain and flaxseed acreage has remained at approximately the 1930 level.

This sketch of agricultural developments in Argentina would be incomplete without emphasizing the comparative newness of the cattle and grazing industry in its present form. Many of the pioneers who began the improvement of cattle and the fattening of steers on alfalfa pastures are still living. Some of the largest cattle feeders are men who themselves bought land in the west and created estancias after 1900. In general, however, ownership has descended to the sons of the founders of the modern estancias, and the second generation is active in the administration and operation of these properties. It is only rarely that the third generation has come into possession. The raising of fat steers for the English market did not attain great importance until after 1907, and many contend that it was the World War and the resulting market for beef that gave the Argentine cattle industry its present pattern and led to the current volume of breeding and fattening operations.

ARGENTINE PASTURES

CATTLE-GRAZING REGIONS RESTRICTED

Pastures have a special importance in Argentina, not only because the pasture acreage is of great extent, but also because the cattle and sheep industries are almost exclusively grazing industries. Steers are finished on pastures, and only in times of extreme drought is some corn used to fatten them. Owing to the entire dependence on pastures, the kind, quality, and number of livestock in different districts are determined directly by the quality of the pastures. There are possibly few countries in which returns from pastures and returns from crops compete as directly as they do in Argentina.

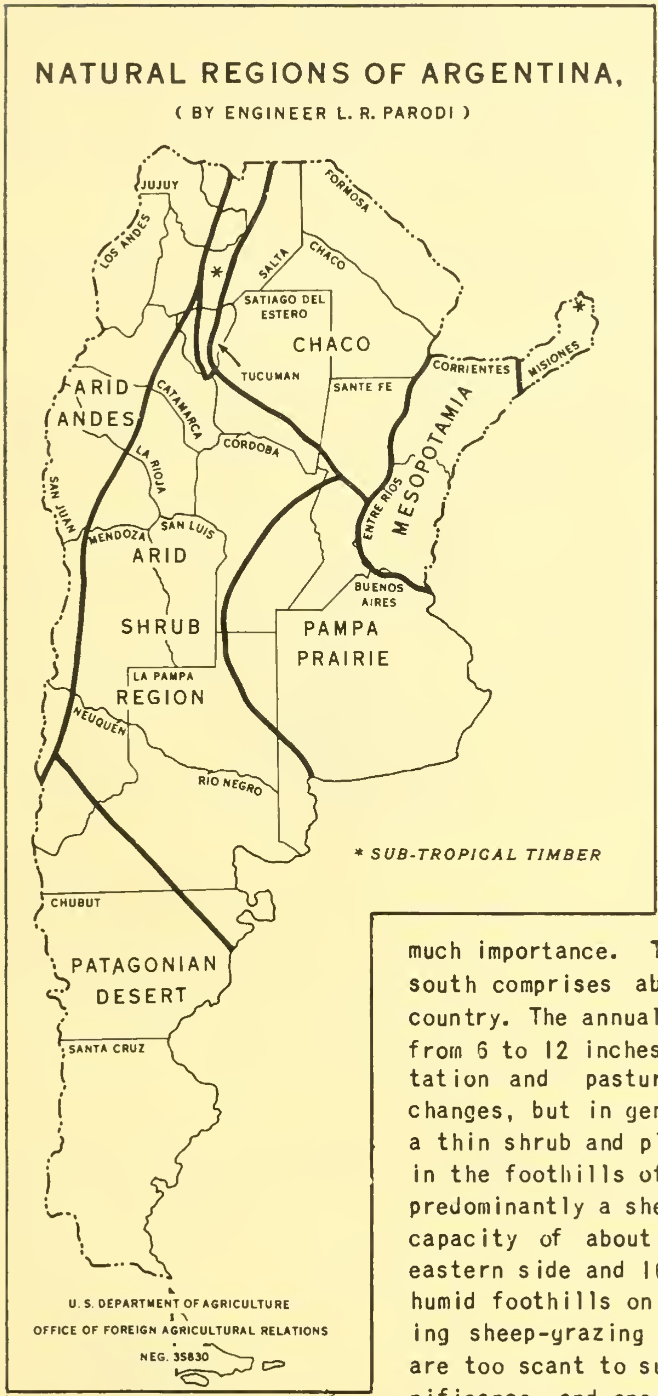


Figure 1.

At the outset it must be emphasized that climatic and soil conditions vary greatly in different parts of Argentina and that favorable rainfall and soil conditions are restricted to a relatively small part of the total area of the country. No detailed botanical studies of the natural regions of Argentina have been made; but Lorenzo R. Parodi, of the University of Buenos Aires, has outlined and described eight natural regions, which are reproduced in figure 1. Only three of these regions, lying to the northeast and comprising about one-third of the land area of Argentina, are of primary importance for cattle grazing - the Pampa, Mesopotamia, and the Chaco. One region, the Pampa, includes the bulk of what is usually referred to as the main Cereal and Livestock Zone of Argentina.

It will be evident from the description of the other regions why cattle grazing outside of these three has never attained much importance. The Patagonian Desert in the extreme south comprises about one-fifth of the area of the country. The annual rainfall in different parts ranges from 6 to 12 inches. There is some variation in vegetation and pasture conditions associated with these changes, but in general the arid region supports only a thin shrub and plant growth. Some cattle are grazed in the foothills of the Andes in the north, but it is predominantly a sheep-grazing country with a carrying capacity of about 80 head per 1,000 acres along the eastern side and 160 head per 1,000 acres in the more humid foothills on the western side. It is the leading sheep-grazing region of Argentina; but pastures are too scant to support a cattle industry of any significance, and one or two of the larger cities on the Atlantic Coast of this region are supplied with fresh beef shipped in coast steamers from the main Cereal and Livestock Zone to the north.

In the western part of the Arid Shrub Region (monte) the annual rainfall declines to 4 inches from about 18 inches on the eastern side. The soil is sandy and gravelly, the topography is flat to rolling, and the characteristic low arid-type shrubs and trees and patchy, hard grasses provide poor pasturage. Only on the eastern edge of this district, close to the Pampa, and in a few other restricted spots are pastures sufficiently good to carry cattle in any number and to raise some feeder steers, which are driven in to the alfalfa districts to the east for fattening.

In the Arid Andes Region and in the Subtropical Timber Regions, grazing conditions support relatively small numbers of native cattle. In the former there are more goats than sheep.

In the Chaco to the north, temperatures are high and rainfall in most of the region is light. It is mixed timberland and open country, with some districts in the more humid eastern portion carrying native cattle in some numbers on the coarse semitropical native grasses.

The northern portion of the Mesopotamia Region is humid pasture and woodland, rolling and rough in places, poorly adapted to crops, and almost exclusively in native pastures. It is both a cattle- and a sheep-grazing region. Many properties in this region carry a large number of cattle and are a source of native steers for canning purposes. The extreme southern portion of this region is a part of the main Cereal and Livestock Zone with an annual rainfall of more than 40 inches and with good pasture lands in many districts. The boundary between tick-infested country in the north and tick-free country in the south runs through the southern part of the Province of Entre Ríos and the central part of the Province of Santa Fe.

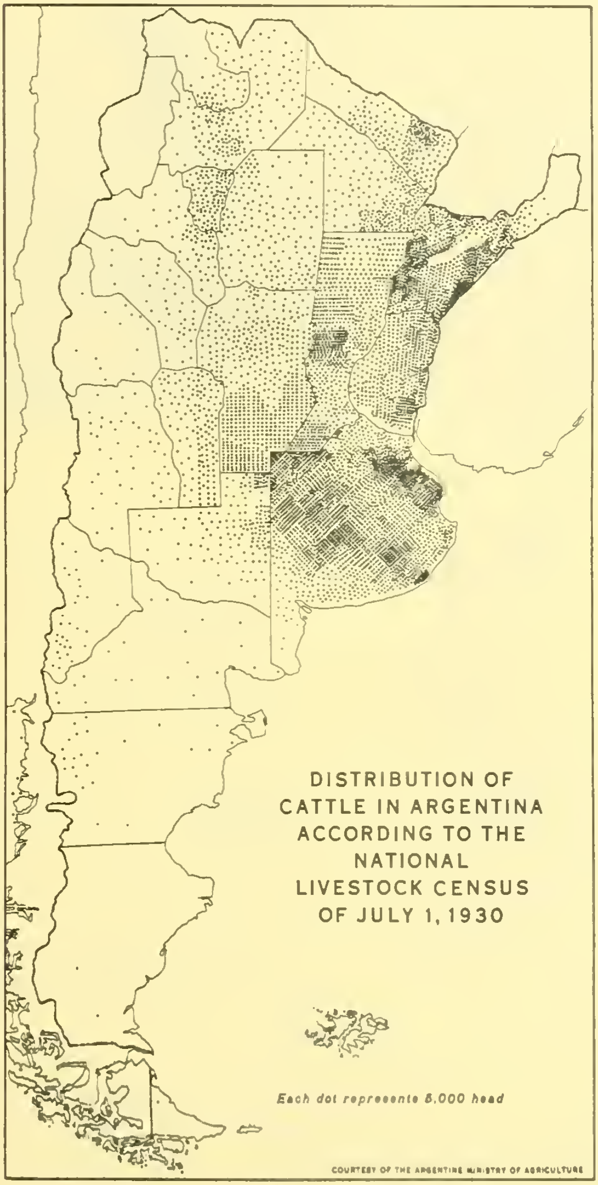
Although pasture conditions are poor, the vast extent of these outlying regions and the great amount of land that is being put to relatively little or no use undoubtedly make it possible for these regions to carry much larger numbers of cattle; but, in a country where the price levels are low in export centers for even well-finished steers, prices for low-grade cattle and steers in tick-infested districts far removed from markets are extremely low and provide little incentive to better utilization of the grazing lands.

Figure 2 shows the distribution of cattle according to the census of the Ministry of Agriculture made in 1930. It is apparent that cattle grazing is especially concentrated in the main Cereal and Livestock Zone, consisting primarily of the Pampa and a small part of the Mesopotamia Region.

THE CEREAL AND LIVESTOCK ZONE

The Cereal and Livestock Zone is of rectangular shape, extending 575 miles north and south and 360 miles east and west, and includes practically all of the Provinces of Entre Ríos, Santa Fe, Córdoba, and Buenos Aires, and a small part of the Territory of La Pampa, or an area approximately equal to the combined area of

Illinois, Iowa, and Missouri. With the exception of a range of hills in the southern part of the Province of Buenos Aires, the entire zone is extremely flat - the word "pampa" being derived from the Indian term meaning "a prairie." Trees and wood lots are confined to parks, lanes, and rows of trees set out by hand along boundary lines. Except in the eastern part of the Province of Buenos Aires, there are only small amounts of wet, swampy, or untillable land. It would be difficult to find an area of similar extent with as small a percentage of waste land.


DISTRIBUTION OF CATTLE IN ARGENTINA ACCORDING TO THE NATIONAL LIVESTOCK CENSUS OF JULY 1, 1930
Each dot represents 5,000 head

COURTESY OF THE ARGENTINE MINISTRY OF AGRICULTURE

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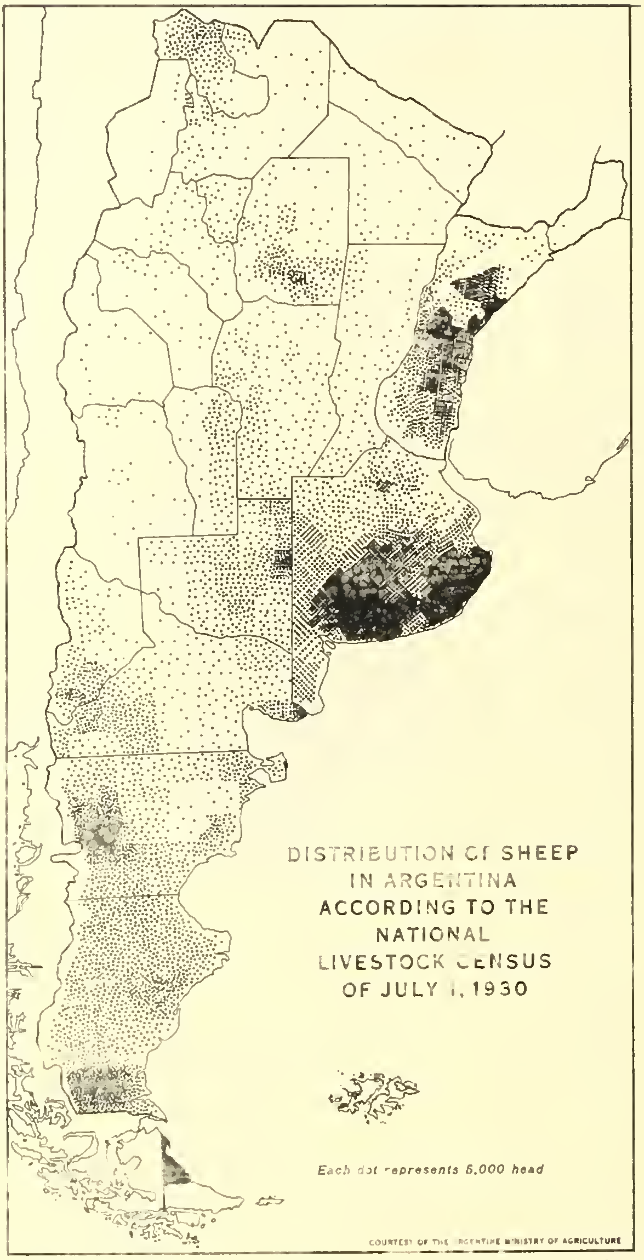
Figure 2.

It has been said of Iowa that variation in rainfall can account to a very small degree for differences in farming types found within the State. Possibly one of the most distinctive features of the Argentine Cereal and Livestock Zone, however, is the great variation, considering the size of the area, in the amount and seasonal distribution of the rainfall. Annual precipitation ranges from more than 40 inches in Entre Ríos on the eastern side to 13 inches on the western edge of the wheat and alfalfa zone - or within a distance at about 350 miles. It is difficult to find a corresponding change in a corresponding distance in the Great Plains region of the United States, except possibly in Kansas. Because of the difference in temperature between the northern and southern limits of the zone associated with a difference of 9 degrees in latitude (from 30° to 39° S.) and with other factors, there is a range in vegetation from tall, semitropical, coarse grasses in the north to short, tender grasses in the south. Frosts occur throughout the zone in the winter months and are frequent in the southern part, but the ground rarely freezes.

There are no soil surveys for Argentina, but some generalizations are possible. The central region, on which the corn acreage is concentrated, consists of a fertile black silt soil, 2 feet in depth, overlying a brown subsoil about 3 feet in depth. It ranks among the best soil types in the world. To the north of this region, soils contain somewhat more clay and are less friable; nevertheless, they are fertile and productive. In the northwest, west, and southwest, the soils are lighter both in texture and in color and become progressively sandier and poorer from east to west. In the eastern part of the Province of Buenos Aires are low, poorly drained soils; and in the south are black prairie soils, impaired in many places by nearness to the surface of the underlying limestone rock.

Associated with these broad aspects of the climate and soil of the main Cereal and Livestock Zone are variations in yields, regional specialization in crops, and pasture conditions.



DISTRIBUTION OF SHEEP IN ARGENTINA ACCORDING TO THE NATIONAL LIVESTOCK CENSUS OF JULY 1, 1930

COURTESY OF THE ARGENTINE MINISTRY OF AGRICULTURE

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Figure 3.

ARGENTINE PASTURE GRASSES

Through adaptation to the long seasonal droughts, most of the native grasses formerly grown and still grown to some extent, consisted of drought-resistant plants with hard, narrow leaves - still referred to as "hard pastures." They dried up for 3 or 4 months in the hot, relatively dry summer and again in the winter. In the east, the introduction of imported varieties, as well as actual grazing, improved and modified the hard pastures. Because of the humid, fertile soil in the eastern part of the Cereal and Livestock Zone, the native pasture lands tended to remain green throughout the year. In the central and western part the native, hard, drought-resistant pastures were probably only slightly modified and improved until alfalfa was sown, owing to the difficulty of finding tender grasses that would thrive under the rainfall, temperature, and soil conditions of those parts of the Pampa. It is said that the native prairies that were broken up for sowing to alfalfa consisted chiefly of lands covered with high-growing, hard, wiry grasses.[2] Some of these grasses still grow in low waste places in the west. In the east the native grasses make a comparatively tight sod, but to the west they become thinner and thinner.

Figure 4 - Shorthorn cattle in the Argentine pampa. (Courtesy of the Argentine Rural Society.)

With regard to the native grasses of the Argentine Pampa, Parodi states: "It is surprising that as it is a grass plain par excellence with more than 300 indigenous species of grasses, it has contributed to world agriculture only two species of secondary importance, Schrader's bromegrass, or rescue grass *(Bromus catharticus)*, and Dallis grass *(Paspalum dilatatum)*, and a decorative species, pampasgrass *(Cortaderia dioica)* distributed today in parks and gardens throughout the world."

As previously indicated, except for the natural grasslands of the eastern part of the cereal zone, the native grasses in most of the Pampa provided too poor pasturage for the native pastures to remain as soon as attention was given to improving the carrying capacity and grain farming began to compete for use of the land. Many landowners say that displacement of native grasses by improved pastures took place very rapidly about the turn of the century. At the present time they have been almost completely displaced by improved pastures and grain farming except on the heavy natural grasslands in the eastern part of the Province of Buenos Aires and in Entre Ríos.

The expansion of world markets for beef and livestock products in the period around 1900 stimulated an interest in pasture improvement, and foreign grasses from many sources were introduced and tried out by the estancieros. Many grasses were advertised and were popular for a time but failed to have the qualities necessary to retain a permanent or important place as pasture grasses in Argentina.

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[2] Of the genera *Stipa*, *Poa*, *Briza*, and *Melica*.

After reviewing these trials with imported varieties, an agricultural botanist, Carlos D. Girola, wrote in 1916 of the pasture plants at that time: "Alfalfa is queen of forage in Argentina. Each year its acreage increases. It has an acreage greater than that sown to any other plant in the country. It already exceeds 7,500,000 hectares [18,533,000 acres] and it will soon cover 10,000,000 hectares [24,710,000 acres] - figures too eloquent to require further comment. After alfalfa the other grasses that contribute most to the encouragement of livestock breeding in Argentina are the various species of ryegrass, particularly the Italian [*Lolium multiflorum*] and various species of bromegrass, particularly the native. These are often mixed and unidentified in Argentine pastures. Around these varieties, which comprise the basis of Argentina's improved pastures, and found in a greater or lesser degree also in natural pastures are clustered other Gramineae, such as various *Paspalum* and other so-called sweet grasses, *Poa* [meadow grass], *Festuca* [fescue grass], and to a lesser degree legumes."

An owner of several estancias, who has himself carried on experimental and test work with various grasses, contends that the situation today is almost identical with that described in 1916; i.e., no new grasses especially adapted to Argentine conditions have been discovered and several species of bromegrass and ryegrass continue to be the most important species in both improved and native pastures, supplemented by cultivated alfalfa, oats, rye, barley, corn, and Sudan grass. The improved and cultivated pastures of Argentina, accordingly, consist largely of these few species, used almost entirely for pasture, most of which in the United States are grown chiefly as hay and grain crops.[3]

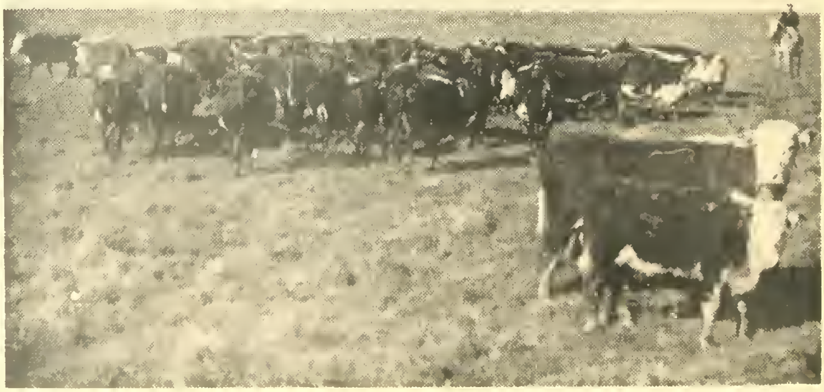

Figure 5. - Hereford cows on native Argentine pastures. (Courtesy of the Argentine Rural Society.)

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[3] To these species of primary importance should be added a list of grasses of secondary importance found in native and improved pastures: Dallis grass (*Paspalum dilatatum*), *Erodium malachoides*, bur-clover (*Medicago denticulata*), *Stipa neesiana*, *Briza triloba*, *Vulpia dertonensis*, white clover (*Trifolium repens*) silver beardgrass (*Andropogon saccharoides*), and carpet grass (*Axonopus compressus*).

In relation to the acreage of native and improved pastures the acreage of alfalfa and other cultivated pastures is small. A comparison of the alfalfa acreage (1933-34) with the sown acreages of oats, rye, and barley for 1938-39 indicates the relative areas devoted to these pasture crops: Alfalfa 13,880,000 acres; oats 3,361,000; rye 2,254,000; and barley 2,053,000. It was estimated by the Ministry of Agriculture that one or more cuttings of hay were taken from 40 percent of the alfalfa acreage. Of the sown acreages of oats, rye, and barley the harvested acreages were about 50 percent, 30 percent, and 65 percent, respectively. The unharvested acreages were pastured areas from which no grain crop was obtained. In addition, a considerable part of the harvested acreages was also pastured, but the cattle were removed early enough in the spring to enable a grain crop to be harvested. The statistics, accordingly, for oats, rye, and barley are not strictly for pastured acreages; nevertheless, they serve to indicate the importance of these crops as supplementary pastures.

There are many weeds and noxious plants in Argentina, among which the thistles as a group are probably the most injurious. Two of these, *cardo asnal*, or milk thistle, *(Silybum marianum)* and musk thistle *(Carduus nutans)*, are particularly harmful and lower the carrying capacity of a great many pastures. The large flat leaves of the first crowd out the grass, and by midsummer the thistle reaches a height of fully 5 feet. It gives an appearance of waste and neglect to many pastures on the heavier lands. A special large steel roller pulled by horses, with cutting blades attached as lugs to the roller, has been devised for use in cutting the plants close to the roots. Because of the size of many of the properties, however, the control of these and other thistles represents a big item of labor and is frequently not attempted. Regulations prohibiting the distribution of Sudan grass and other seeds contaminated with Johnson grass are very rigid.

PASTURE CONDITIONS IN THE VARIOUS AREAS

With respect to soil and climate, conditions on the eastern side of the Cereal and Livestock Zone are favorable for natural grasslands but decline progressively to the west. A division between relatively favorable and unfavorable conditions follows the 35-inch rainfall line located just west of the Paraná River and extending southward to Mar del Plata on the Atlantic coast. See figure 6. The high temperatures that prevail in the northern part of the zone impair natural grazing conditions.

On an unpublished map to which the writer has had access, Parodi has tentatively divided the Pampa into eight or nine different areas according to botanical, soil, and other conditions. Since the botanical differences between areas are not always marked, a division into four areas, Northern, Eastern, Southwestern, and Western, will serve the essential purpose of this study. These areas represent sufficiently distinctive pasture conditions to explain differences in the grazing industry in the various parts of the Argentine Pampa. See figure 7.

The natural tree and shrub growth that characterizes the Chaco region marks the northern boundary of the *Northern* Area, and the appearance of tight, poorly drained soils unsuitable for crop production, the southern boundary. Included in this area, which has an annual rainfall of from 30 to 40 inches, are the best soils of Argentina. They are dark, deep, and fertile and, combined with favorable climatic conditions and proximity to river ports, have made possible the high agricultural development of this area. A large part of the land is used for corn, flaxseed, and wheat.

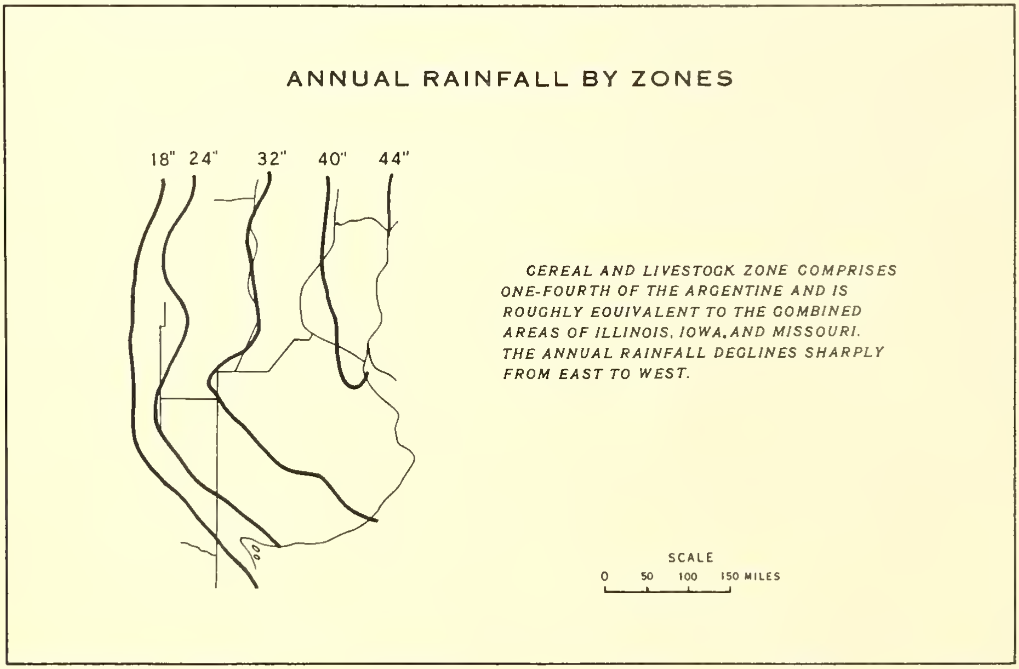
ANNUAL RAINFALL BY ZONES
18"
24"
32"
40"
44"
CEREAL AND LIVESTOCK ZONE COMPRISES ONE-FOURTH OF THE ARGENTINE AND IS ROUGHLY EQUIVALENT TO THE COMBINED AREAS OF ILLINOIS, IOWA, AND MISSOURI. THE ANNUAL RAINFALL DECLINES SHARPLY FROM EAST TO WEST.
SCALE
0 50 100 150 MILES

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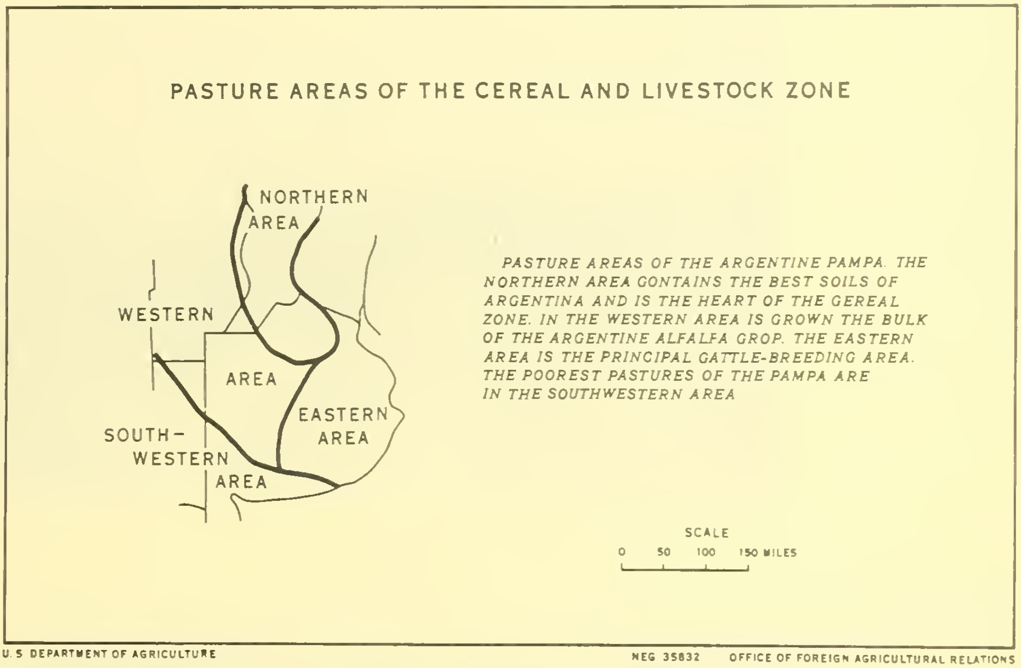
Figure 6.

Alfalfa does well and is a leading form of pasture, much of which is intensively used in dairying. More alfalfa is cut for hay here than in other parts of the Pampa. Except in low, poorly drained spots, native grasses have been replaced almost entirely by improved pastures of alfalfa and certain species of bromegrass and ryegrass, white clover, and several species of bur-clover. Land values are higher, farms are smaller, and there is a closer approximation to mixed farming here than in any other part of the country. In no other area does crop production offer so much competition for the use of the land, but substantial acreages are nevertheless devoted to grazing.

The *Eastern* Area consists primarily of the eastern and central parts of the Province of Buenos Aires, but the southern part of Entre Ríos is also included because of the extent of native pastures in the latter Province. The area consists chiefly of the Salado River Basin, which is a low-lying, poorly drained district with tight subsoils and large acreages frequently flooded; but it also includes well-drained lands to the north and the natural pasture lands around the Tandil and Balcarce Hills to the south of the Salado River Basin, not especially suitable for crop production. The area receives an annual rainfall of from 35 to 40 inches, and pastures tend to remain green throughout the year. The area is being left almost entirely in pasture, crop acreages being extremely small. Native grasses grow here to a greater extent than in any other area, and alfalfa does not thrive.[4] Land of this character, or pasture country, surrounds the city of Buenos Aires, and a dairy industry has been established there with Shorthorn cattle, which supplies the bulk of the city's market-milk requirements.



PASTURE AREAS OF THE CEREAL AND LIVESTOCK ZONE

PASTURE AREAS OF THE ARGENTINE PAMPA. THE NORTHERN AREA CONTAINS THE BEST SOILS OF ARGENTINA AND IS THE HEART OF THE CEREAL ZONE. IN THE WESTERN AREA IS GROWN THE BULK OF THE ARGENTINE ALFALFA CROP. THE EASTERN AREA IS THE PRINCIPAL CATTLE-BREEDING AREA. THE POOREST PASTURES OF THE PAMPA ARE IN THE SOUTHWESTERN AREA

U. S. DEPARTMENT OF AGRICULTURE NEG 35832 OFFICE OF FOREIGN AGRICULTURAL RELATIONS

Figure 7.

Pastures in this area are not good enough to finish steers for the export market, but the area carries large numbers of cattle and it is an important breeding region from which yearling steers are shipped to the alfalfa region for fattening. It is known, accordingly, as a *vaca de cría* or cattle-breeding area of Argentina, as distinct from the *invernadero*, or cattle-wintering and cattle-fattening alfalfa area of the west; but the practice of fattening some steers here is increasing, and for this purpose larger acreages of oats and rye are being sown as winter pasture. The carrying capacity of the pastures in this breeding area is one cow to about 2½ acres.

The *Southwestern* and the *Western* Areas have some characteristics in common. In both districts soils become progressively sandier and the climate progressively drier to the west, but the nearness to the surface of an underlying bed of limestone rock explains basic differences between the two areas in vegetation and pasture. The Southwestern Area is a part of a much larger region referred to as the *tosca* or limestone-rock region. In general, the soil covering over the limestone rock in this area varies from 2 to 4½ feet in depth, but frequently the limestone rock appears on the surface. It is too shallow a soil for alfalfa, which is confined to spots here and there where the soil is deepest. The boundary between this and the Western Area is determined by soils sufficiently deep for alfalfa to do well.

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[4] It is difficult to indicate the relative importance of the native grasses in this area, but of leading importance are the previously mentioned species of the genera *Bromus*, *Lolium*, *Paspalum*, *Stipa*, *Briza*, *Andropogon*, and *Trefolium*.

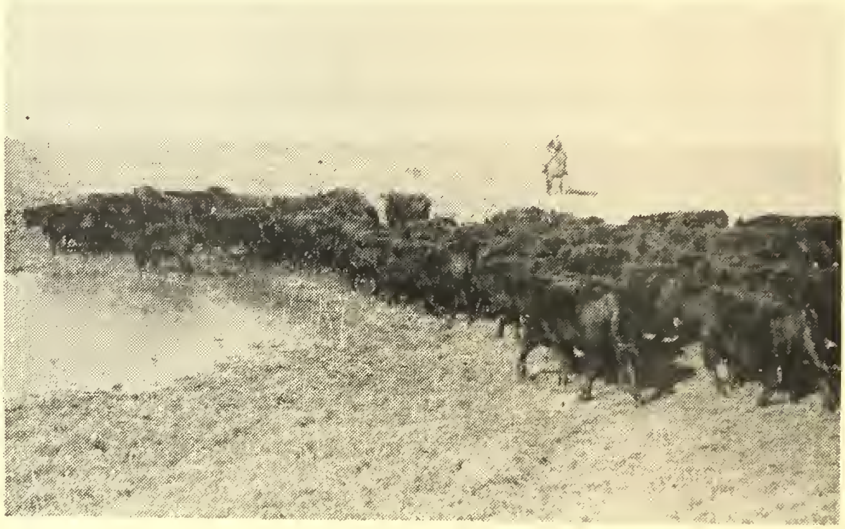


Figure 8. - Aberdeen-Angus cattle on the treeless pasture land of Argentina. (Courtesy of the Argentine Rural Society.)

In the Southwestern Area the poorness of pastures is due also to a relatively long period of frosts and low temperatures. It is known as a short-pasture-grass area and is utilized chiefly for sheep. It is the least important for cattle grazing in the entire Pampa. In the western part of this area, because of its shallowness and sandy character, the soil has a limited water-holding capacity. This, combined with the seasonal character of the rainfall and the high winds, causes pastures to be dry frequently for many months of the year.

The entire Southwestern Area, but especially the southern part, is better grain land than grazing land. Oats do especially well along the coast, where a heavy sheep-grazing area has been developed, relying principally upon oat and rye pastures. Owing to the sandy and depleted character of the soils in the western part of this area, a system of crop rotation and mixed farming is urgently needed; but it is difficult to find satisfactory pasture grasses that will support livestock enterprises of importance. Russian thistle and *Bassia hyssopifolia*, a member of the goosefoot family, which come up on idle land, and volunteer wheat and rye on plowed lands provide grazing for horses and sheep. Alfilaria *(Erodium cicutarium)* is also an important pasture species here.

The Western Area has an annual rainfall of from 24 to 34 inches. The soils are lighter than they are farther east and become more and more sandy to the west. Soil blowing is a problem in the extreme west, and sand dunes occur here and there.

In general, the soils are deep and well-drained and alfalfa thrives especially well. Grazing conditions are less satisfactory in the part of this area located in the Province of Córdoba, and water for livestock is frequently not good.

Especially because of the ease with which alfalfa grows and the fact that the climate is too dry for corn and the soils too light to support continuous wheat farming, most of this area has developed into a highly specialized grazing area for fattening steers on alfalfa and supplementary pastures. Large acreages of rye, oats, and barley are sown for winter pasture, and Sudan grass and corn are used to supplement the alfalfa pasture in the late summer. The bulk of the 14 million acres of alfalfa in Argentina is located in this Western Area, and the reputation of the Argentineans for fattening steers on pastures was made here. Either alone or growing with alfalfa, considerable feed is also provided by the several species of ryegrass and bromegrass, by "alfilerillo" *(Geranium rotundifolium)*, by several burclovers and other clovers, and by various self-seeding grasses.

Landowners estimate a steer to each 2½ acres, and visitors to Argentina are impressed with the excellent pastures and their high carrying capacity. Some alfalfa is cut for hay in this area, but in relation to the total alfalfa acreage the amount is small. It is put up in stacks in the open fields and provides a reserve against seasons of extremely poor pastures.

Figure 9.-Young cows on alfalfa pasture in Argentina. (Courtesy of the Argentine Rural Society.)

Alfalfa provides good pasture from September to April; corn and Sudan grass supplement these pastures in February and March; rye, oat, and barley pastures are relied upon for quick gains and for finishing steers from June to September. Pasturing wheat is a relatively new development and not practiced much to date. It is recognized that the oat and rye pastures are the best but that alfalfa is the cheapest. If spring pasture conditions are good, the cattle are taken off the oat, rye, and barley pastures by the middle of September, or early enough for these crops to make a harvest of grain. Partly because of less satisfactory results than formerly with alfalfa, the use of these supplementary pastures is increasing and larger acreages are being sown. On some of the large properties - of 100,000 acres or so - as much as 7,000 acres are sown each year to rye and oats; and in order to maintain the alfalfa acreage about 10 percent of the area of the estancia is each year reseeded with alfalfa.

Alfalfa in this area is usually sown alone in the fall months of April and May and can be pastured in December. Frequently it is combined with thinly sown rye used for pasture during the winter. On an estancia in this region, the writer recently examined a field that has raised alfalfa continuously since 1906 but which has been plowed and sown with alfalfa only twice - in 1906 when the prairie was broken and again in 1924. The success to date in maintaining yields of alfalfa grown almost continuously for more than 30 years under the annual rainfall conditions of this area is undoubtedly due to the fortunate circumstance that the water table has in part supplied the moisture requirements of the alfalfa plants.

The life of a new seeding of alfalfa, however, is less now than formerly, and in general more difficulty is being experienced in growing good crops. When alfalfa was first grown in this area, an alfalfa field was good for from 10 to 15 years, but now the life of a new seeding is from 5 to 8 years. The poorer results with alfalfa are attributed chiefly to a depletion of subsoil moisture. It is said that about 20 years ago the water table in much of this area was from 10 to 12 feet from the surface but that, owing in part to heavy cropping, it has now dropped to 20 or 25 feet. Alfalfa is able, presumably, to continue to utilize capillary moisture from a water table at these depths, and yields are probably not dependent entirely on annual rainfall (from 24 to 34 inches); but the impairment of yields and of the carrying capacity of alfalfa pastures is a matter causing deep concern to cattlemen.

Damage by the *tucura* - one of the species of locusts - has been, and continues to be, a serious problem and frequently necessitates the reseeding of comparatively new alfalfa fields.

GRAZING VERSUS GRAIN FARMING

FACTORS INFLUENCING LAND UTILIZATION

Conditions in different parts of the main Cereal and Livestock Zone vary greatly with respect to comparative returns from grazing and grain farming, which determine the use of the land. A vast district in the eastern part of the Province of Buenos Aires and districts in Entre Ríos and northern Santa Fe are unsuitable for crop production, and there is practically no alternative but to leave the land almost in its entirety for grazing. Much of the main Cereal and Livestock Zone, however, consists of land capable of raising wheat, corn, or flax. See figure 10.

Corn yields are high in a relatively small central district of deep black soils where rainfall conditions are favorable, especially during the hot months of

December and January. Here the grazing industries have been displaced by grain farming to a greater degree than in any other region, but even here pastures occupy large acreages. The rainfall declines sharply from east to west of this central district. For this reason and because of sandier soils, corn yields decline sharply, and the crop quickly disappears from the cropping system. Much of the acreage in the outlying districts is used for raising cattle fodder, thus cleaning the land for wheat or alfalfa. The district in which corn does well and competes effectively with other crops and pastures is exceedingly small.

Flax yields are high on the good soils in the center of the zone, but the bulk of the acreage is on land to the north and in Entre Ríos where corn yields are relatively poor and where pasture conditions are likewise only fair.

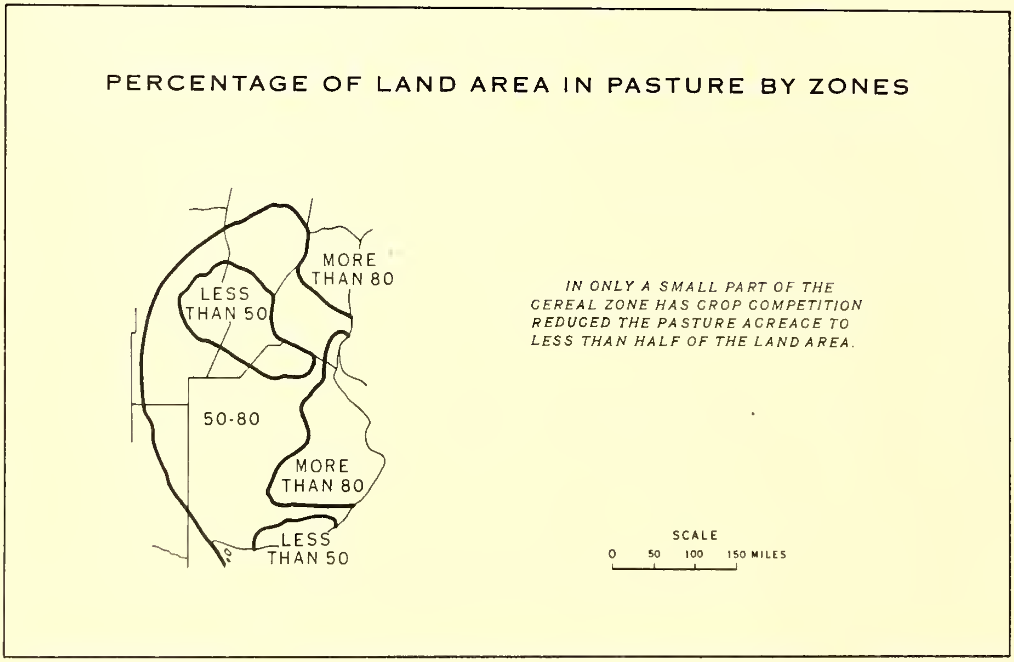
It will be noted that the wheat acreage forms a crescent on the western side of the Cereal and Livestock Zone. Rainfall here is too light for corn and flax, and much of the soil is sandy. The conditions of competition between wheat and pasture for the use of the land in this western crescent-shaped district vary greatly from south to north. Along the coast in the south pastures are poor; but, because of quite fertile soils and favorable seasonal rainfall, wheat and oats do well, and the small grains occupy from 65 to 75 percent of the land area in some counties. The large acreage of wheat in the southwest consists of land on which, owing to the thin soil covering and in part to the sandy character of the soil, alfalfa does not thrive and pastures are poor. Much of this wheat acreage is land recognized as absolutely poor, too poor to provide even fair pasture and support a grazing industry with as good returns even as the low and declining yields of wheat.

Soil blowing in the southwestern part of the Cereal and Livestock Zone is becoming a more serious problem each year. Some people now contend that the native pastures in much of this region should not have been plowed up and destroyed. To the north, the soils, although sandy, are deeper; and in a large region including the western part of the Province of Buenos Aires and the southern part of the Province of Córdoba alfalfa does especially well, better comparatively than wheat. Here the grazing industry is highly developed and firmly entrenched in competition with grain farming. In the extreme northwest a heavy concentration of the wheat acreage and a corresponding decline of the grazing industry is explained by somewhat smaller yields of alfalfa, poorer conditions for livestock, dry summers, and satisfactory yields of wheat.

As a result of crop and grazing competition, the proportion of the land area in pastures in 1934 varied in different parts of the Cereal and Livestock Zone as is indicated in figure 10. Only in a central corn and linseed district and in a small wheat district in the extreme south do pastures occupy less than 50 percent of the land area. Over larger districts, pastures occupy more than 90 percent of the land area. Land utilization by no means follows a rigid program but shows many evidences of sensitivity and response to changing comparative advantage.

The ability of the grazing and livestock industries to retain such an important place on grain lands is due, in great part, to the ease with which alfalfa grows in most of the Cereal Zone. No one can see the alfalfa pastures in Argentina, which provide excellent feed for 7 or 8 months of the year and some feed throughout the year, without being convinced that this crop is one of the leading agricultural assets of the country and a leading factor in the successful competition of the grazing industry with grain farming on a vast acreage.

The large pasture acreage is explained also by the prevailing system of very low land taxes, large landholdings, and, given sufficient capital, the ease with which these tracts are operated as cattle and sheep estancias. The capital requirements are considerable with respect to the investment in land, fences, and cattle or sheep; but the estancias represent much the simplest means of administering large holdings. They provide the only system by which the owners can personally direct and manage operations on such large tracts, of which the minimum size is about 5,000 acres. The income from cattle and sheep, moreover, is more constant and dependable than from crops, and it is said that since 1930 the returns from livestock, or from estancias, have been uniformly as good as, or better than, from grain.


PERCENTAGE OF LAND AREA IN PASTURE BY ZONES

IN ONLY A SMALL PART OF THE CEREAL ZONE HAS CROP COMPETITION REDUCED THE PASTURE ACREAGE TO LESS THAN HALF OF THE LAND AREA.

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Figure 10.

Converting a tract of grazing land into tenant grain farms involves other considerations, however, besides that of financial returns. Livestock grazing has been the traditional source of wealth in Argentina, and there is a social and economic standing associated with it. The estancias are institutions reflecting wealth, a manner of living, and, in many respects, an agricultural aristocracy - the closest parallel to which in the United States disappeared with slavery and the large cotton plantations of the South. Shifting to grain farming is the end of personal direction of extensive herds and flocks and more especially of the manner of living associated with the estancias. No longer is the former estanciero the director of actual operations; he is now concerned with administrative matters involving scores to hundreds of tenants, many of whom are difficult and unreliable.

But most observers in Argentina recognize that substantial amounts of the present grazing land are being inadequately and poorly utilized and that only the wealth of some of the old landowning families and their income from large tracts has enabled them to carry on as inefficiently as they have and as insensitive to low financial returns, if not losses. Rising land values before the depression and ability to mortgage their properties for large amounts enabled many to persist in a tradition and to postpone changes and adjustments demanded by relatively low returns and poor management; but since 1929 more and more attention is being given to the better utilization of properties. This involves improvement in pastures, shifting to grain farming in some localities, and more careful management.

SPECIALIZATION IN GRAZING AND IN GRAIN FARMING

Possibly one of the most distinctive features of the organization of agriculture in Argentina is the extent to which crop and livestock farming are separated and carried out as independent and highly specialized types of farming. This separation is reflected in the terms *estancia* and *chacra*, *estanciero* and *chacarero*, referring, respectively, to a livestock farm and a grain farm, a livestock farmer and a grain farmer, which are significant and necessary distinctions in Argentina. Usually when estancia owners wish to cultivate a portion of the estancia, tenant farmers are called in for that purpose; but there are many estancias on which 2,500 or 5,000 acres of grain are planted by men employed by the owner.

The explanation for the degree of separation of grain and livestock farming operations is to be found in the size of the landholdings. Most of the estancias consist of from 6,000 to 12,000 acres; but as an indication of larger holdings there are 50 families with holdings in excess of 75,000 acres each in the Province of Buenos Aires. The labor supply on the estancias is usually not large enough to engage to any considerable extent in the relatively intensive operations of grain farming, and relatively few estancia owners add to their management and administration problems by hiring additional farm hands and engaging in grain farming on any significant scale. Lack of capital on the part of tenant farmers, conditions of tenancy, and lack of interest and ability of tenant farmers tend to restrict tenant farms to units of large-scale grain production and to exclude livestock enterprises. Fattening a carload of steers in small mixed-farming operations, therefore, rarely occurs in Argentina.

Changes in this matter of organization are taking place, but the tendency is more toward the inclusion of grain farming on estancias than toward adding livestock on the grain farms. More grain is being sown on estancias, even though considerable additional administration is involved. Greater use is being made of corn for forage purposes. The necessity to reseed a somewhat larger acreage each year with alfalfa, since its average life is less than formerly, involves additional grain farming. Apart from better utilization of the land, a desire to diversify returns has influenced many to undertake the growing of corn and wheat.

A number of large landowners contend that changes of this character are inevitable. In general, when large landowners dispose of a tract of land they prefer to sell it as one piece; but more often than formerly they subdivide their properties into sufficiently small lots to attract owner-operators. Throughout the Cereal and Livestock Zone, especially in the Province of Santa Fe, small owner-operated places tend to become mixed grain and livestock farms.

Dairying in Argentina combines both beef and milk production. There are some Holstein cattle, but the bulk of the milk production is from Shorthorn cows. Beef calves from the dairy farms are raised to an age of 10 months or 1 year and sold to feeders. In the market-milk areas the value of milk production during a year is greater than the value of the calves raised to short yearlings, but in many of the butter and cheese districts the beef calves and milk production represent equal incomes.

Among the three leading beef breeds, Shorthorn, Hereford, and Aberdeen-Angus, the Shorthorn predominates. The high standards of breeding animals is a factor of great importance in explaining the uniformity and high quality of the beef exported abroad and the reputation of Argentine beef in foreign markets. The leading breeders have gone to great efforts and expense in securing some of the best breeding stock of England, Scotland, and the United States. Good herds are to be found in all countries, but the widespread distribution of uniformly good beef cattle is especially characteristic of Argentina.

FEATURES OF MARKETING AND EXPORTATION

Shipments to the packing plants and public market at Buenos Aires and to packing plants at La Plata and Rosario represent the main market movement of cattle. Because of the absence of refrigerated cars and cold-storage facilities in interior cities, there is not a large movement of meat to them from port cities and local slaughter is relied upon for local consumption. The per-capita consumption of meat is high, however, and local slaughter at interior towns and cities is large. It is estimated that the annual cattle slaughter is about 7 million head, of which about 70 percent is for domestic consumption and 30 percent for export.

Five large packing plants in Buenos Aires, La Plata, and Rosario do most of the export business in fresh meat and meat products, do a considerable part of the fresh-meat business in these cities, and manufacture a large volume of canned and special meat products. There is also a governmentally sponsored producer-owned organization, which does not own a packing plant *(frigorífico)* but has operating arrangements with several.

There is only one public stockyard of any size, and that is the municipally owned Liniers Market in Buenos Aires. Cattle receipts at this stockyard are from 2 to 2½ million head annually. These do not represent so large a part of the aggregate market movement of cattle as might be expected owing to the large direct shipments from estancias to packing plants. The latter movement is almost as large as the receipts at Liniers Market.

In 1937, Liniers Market supplied 1,200,000 head to packing plants and 861,000 head to local and interior slaughtering plants. It is a primary source of supplies for small slaughtering plants in Buenos Aires. The market is equipped also with a municipal slaughtering plant built especially to serve small butchers and distributors. Although the packing plants are the largest buyers in the Liniers Market, taking about two-thirds of the cattle, these purchases represent only about 40 percent of the total supplies of the packing plants. Shipments direct from estancias are their largest source of supply. Direct purchases in 1937 were in the neighborhood of 1,919,000 head, or 60 percent of the total cattle bought by the plants.

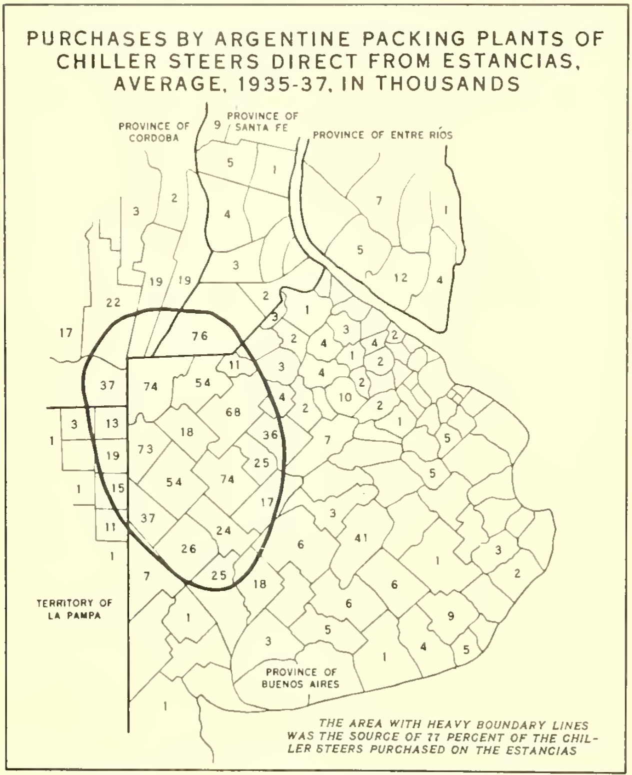
The direct "on the estancia" purchases by packing plants is a distinctive feature of marketing cattle in Argentina. Clients of the packing companies notify the companies when they have cattle ready for market, and cattle buyers are sent out to classify and grade them. Grading consists of separating the steers that meet the standards for chiller and other grades and frequently of rejecting steers as not ready for market. Four major grades are in use, based upon the commercial use of the animals: chiller, freezer, "consumo" (domestic consumption), and canner.

The range in prices paid for chiller-grade steers is usually small (from 26 to 28 centavos per kilogram on August 15, 1939, equivalent to from 3½ to 4 cents per pound, live weight). Upon agreement as to prices, shipments are made at the direction of the packing companies. There are many lots of less than 100 steers in the direct shipments, but one of the packing companies estimates that about half of its receipts consist of trainload shipments of from 400 to 500 head made by individual feeders. Purchases on the estancias are chiefly of steers - 87 percent in 1937 - and about 70 percent of these steers are of chiller grade for the United Kingdom market. Very few chiller-grade steers are secured in the Liniers Market.

Facilitating the loading of entire trains are cattle cars opening at the ends, which provide a continuous passage from the loading chute to the far end of the train. Twenty steers are loaded to a car. Most points in the fattening area are within a rail haul of 20 hours or less from the packing plants.

SOURCE OF CHILLER STEERS

Because the chiller-grade steer is the best grade, except for a relatively small number of baby beef, and because it holds a dominant position in the export trade to England, transactions in chiller steers are of special interest. The Argentine Rural Society publishes monthly the statistics of packing-plant purchases, by counties, of this grade of from 2- to 2½-year-old fat steers. These data have been compiled into average annual purchases by counties for the 3-year period 1934 to 1937 and are shown in figure 11.



PURCHASES BY ARGENTINE PACKING PLANTS OF CHILLER STEERS DIRECT FROM ESTANCIAS, AVERAGE, 1935-37, IN THOUSANDS

THE AREA WITH HEAVY BOUNDARY LINES WAS THE SOURCE OF 77 PERCENT OF THE CHILLER STEERS PURCHASED ON THE ESTANCIAS

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Figure 11.

Purchases of chiller steers, although only about one-third of the total purchases by packing plants, show the origin of the kind of cattle that have given Argentina its high reputation as a beef-cattle country. No other data could better reveal the location of the Argentine cattle industry at its best and at its highest degree of development. Here, on alfalfa, rye, and oat pastures, the finishing of 2- or $2\frac{1}{2}$-year-old steers for the English market, with an average weight of 1,015 to 1,030 pounds, takes place on a large and highly specialized scale. The center of the industry is a group of 20 counties in the western part of the Province of Buenos Aires. Each of a number of these counties annually ships from 50,000 to 74,000 chiller steers. The region marked by a heavy boundary line on figure 11 was the source of 77 percent of the total purchases of chiller steers in the years indicated. Here the soil is somewhat sandy and too poor for continuous grain cropping, alfalfa does well, good water at from 18 to 25 feet is quite general, and the prevailing land values of from $15 to $22 per acre are from one-fourth to one-third of the values in the corn zone to the east. This region contains some excellently managed properties.

It is difficult to say what percentage of the steers fattened in this district are bred locally and what percentage are steers shipped in from other districts to be grown out and fattened. Some estancieros buy all the feeder steers they fatten and others fatten only steers bred on their own estancias. The feeder movement into this region is large, however, and it is the opinion of well-informed persons that not more than 30 percent of the steers fattened are bred in the region. From 70 to 80 percent of the fattened steers probably come in as feeders and are pastured here from 5 months to a year. Most of these steers are bought as 1- or $1\frac{1}{2}$-year-old animals with weights ranging from 770 to 880 pounds. Estancia owners buy many feeder steers at consignment sales sponsored by commission firms in the breeding districts, and many steers are also bought direct from estancias in the breeding areas. Estancias within the same region but with poor facilities for fattening steers also supply some of the feeder steers.

A leading Argentine estanciero, who is also familiar with the beef-cattle industry in the United States, has observed that large numbers of United States feeder steers are bred on large properties of the western ranges and are finished in small lots on relatively small farms in the Corn Belt. He points out that the situation in Argentina is nearly the reverse. Feeder steers are bred on properties smaller, in general, than the fattening properties and are assembled to make up large lots to supply a relatively small number of estancia owners engaged in highly specialized feeding operations on large properties, of which possibly the minimum size is 12,000 acres. Some of the properties exceed 100,000 acres of land and have a carrying capacity of one steer to 2½ acres. The larger properties market from 20,000 to 30,000 fat steers annually.

THE EXPORT TRADE

Chilled, canned, and frozen beef are the largest items in the export trade in beef and meat products. The exports for 1938 were as follows: Chilled beef, 755 million pounds; frozen beef, 226 million pounds; canned meat, 169 million pounds; frozen offal, 64 million pounds; salted beef, 11 million pounds; and meat extract, 4 million pounds.

Chilled beef is exported almost entirely to the United Kingdom. Arrival at packing plants of steers in trainloads for a given day of slaughter, placement in the cold-storage chambers of the packing plants, loading of ocean vessels built especially to handle chilled beef, movement of these vessels on precise schedules, and, finally, careful handling and distribution in the United Kingdom market are all features of this highly organized and efficient export trade.

Quota restrictions in the United Kingdom market have curtailed this outlet. The combined decline in these exports and in exports of frozen beef, shipped chiefly to Germany, Italy, and the United Kingdom, accounted for a 35-percent reduction in total chilled and frozen beef in 1938 compared with 1927. Production adjustments have been made, but in general the supplies and producing capacity in Argentina tend to be excessive.

Because of the very limited market outlet for heavy cuts or for steers weighing in excess of 1,125 pounds, price discounts of 25 percent or more result when with good pastures these prime but overweight steers must be utilized as freezers, or, more usually, as canners. Argentine canned-beef exports are distributed widely, but the United Kingdom and the United States are the principal importers, taking 37 and 45 million pounds, respectively, in 1937. In the absence of other market outlets to absorb all of the large supplies of good beef available in Argentina, the supplies for canning include a high percentage of good grades of beef.

The Argentine Meat Board, a governmental agency, exercises supervision over the meat trade with respect to grading, prices paid to farmers, and other aspects of the industry. Prices for chiller and other grades of steers are usually the result of conferences between packers and the Meat Board.

Because of market restrictions, exports of beef up to the outbreak of the war in Europe were on a definitely lower basis than they had been a decade before. The country has large unused resources, which could be developed in response to higher prices. Extensive tracts of comparatively good pasture land could be improved and utilized for the production of cattle, herds could be increased greatly in a comparatively short time, and slaughter and packing facilities already exist for the handling of many more animals than are now utilized. Overseas trade, however, has progressively declined since 1931, and market outlets remain the limiting factor in the Argentine industry.

* * *

TABLE 1.–*Livestock numbers in Argentina, specified dates*

YEAR	CATTLE	SHEEP	SWINE	HORSES	GOATS
	Number	*Number*	*Number*	*Number*	*Number*
1888 (Oct.)	21,963,930	66,701,097	403,203	4,262,917	[1] 2,863
1895 (May)	21,701,526	74,379,562	652,766	4,445,859	2,749
1908 (May)	29,116,625	67,211,754	1,403,591	7,531,376	3,947
1914 (June)	25,866,763	43,225,452	2,900,585	8,323,815	4,325
1930 (July)	32,211,855	44,413,221	3,768,738	9,858,111	5,647
1937 (June)	33,207,287	43,882,728	3,965,945	8,319,143	4,876

[1] 1875.

Censo Nacional Agropecuario - Ganadería, 1937, published by the Argentine Ministry of Agriculture; and other official sources.

TABLE 2.–*Exports of wool from Argentina, 1875-1938*
[*In terms of wool in grease*]

YEAR	MILLION POUNDS	YEAR	MILLION POUNDS	YEAR	MILLION POUNDS	YEAR	MILLION POUNDS
1875	196	1891	299	1907	334	1923	300
1876	193	1892	334	1908	379	1924	277
1877	210	1893	266	1909	382	1925	255
1878	177	1894	350	1910	325	1926	323
1879	199	1895	435	1911	285	1927	350
1880	210	1896	405	1912	356	1928	281
1881	224	1897	444	1913	259	1929	290
1882	240	1898	478	1914	253	1930	304
1883	256	1899	512	1915	254	1931	316
1884	247	1900	218	1916	267	1932	297
1885	277	1901	493	1917	302	1933	361
1886	294	1902	428	1918	266	1934	256
1887	236	1903	417	1919	348	1935	323
1888	285	1904	364	1920	233	1936	327
1889	306	1905	413	1921	375	1937	273
1890	256	1906	322	1922	438	1938[1]	355

[1] Preliminary.

Compiled from *Anuario del Comercio Exterior de la República Argentina* and *Anuario de la Sociedad Rural Argentina*.

Table 3.–*Exports of cattle and meat from Argentina, 1900-1938*

YEAR	CATTLE	MEAT						
		BEEF			MUTTON AND LAMB, CHILLED AND FROZEN	MEATS, CONSERVED	MEATS, JERKED AND SALTED	TOTAL MEATS
		CHILLED[1]	FROZEN	TOTAL				
	Number	*Million Pounds*	*Million Pounds*	*Million Pounds*	*Million Pounds*	*Million Pounds*	*Million Pounds*	*Million Pounds*
1900 ..	150,550	–	53	53	122	4	36	215
1901 ..	119,189	–	97	97	136	3	52	288
1902 ..	118,303	–	151	151	173	4	48	376
1903 ..	181,860	–	185	185	169	8	28	390
1904 ..	129,275	–	211	211	191	6	25	433
1905 ..	262,681	–	330	330	169	6	55	560
1906 ..	71,106	–	332	332	146	3	10	491
1907 ..	74,841	–	299	299	151	4	23	477
1908 ..	60,916	14	377	391	170	5	14	580
1909 ..	132,450	3	452	455	144	14	25	638
1910 ..	89,733	18	530	548	162	24	20	754
1911 ..	184,112	33	643	676	186	30	26	918
1912 ..	261,416	55	686	741	152	34	19	946
1913 ..	224,911	74	717	791	99	24	8	922
1914 ..	115,556	88	709	797	127	25	5	954
1915 ..	103,207	25	759	784	76	61	(2)	921
1916 ..	51,919	35	889	924	111	85	2	1,122
1917 ..	71,355	84	769	853	86	191	16	1,146
1918 ..	172,551	3	1,068	1,071	109	361	6	1,547
1919 ..	80,298	5	860	865	123	237	17	1,242
1920 ..	72,125	109	790	899	120	28	5	1,052
1921 ..	25,073	321	521	842	142	31	6	1,021
1922 ..	61,653	533	342	875	177	70	13	1,135
1923 ..	119,793	706	465	1,171	175	152	11	1,509
1924 ..	149,666	803	812	1,615	184	182	35	2,016
1925 ..	139,306	821	654	1,475	203	150	30	1,858
1926 ..	184,728	949	500	1,449	148	136	24	1,757
1927 ..	180,658	1,029	521	1,550	183	137	23	1,893
1928 ..	163,282	844	275	1,119	171	148	18	1,456
1929 ..	161,287	789	268	1,057	178	153	11	1,399
1930 ..	124,218	762	217	979	178	139	9	1,305
1931 ..	30,371	777	184	961	184	122	8	1,275
1932 ..	29,003	817	81	898	157	99	4	1,157
1933 ..	38,099	772	69	841	138	124	10	1,113
1934 ..	75,516	771	69	840	107	139	15	1,101
1935 ..	64,379	768	68	836	110	153	17	1,116
1936 ..	72,288	788	87	875	110	166	16	1,167
1937 ..	70,501	771	203	974	114	174	20	1,282
1938[3] ..	122,730	755	226	981	105	169	15	1,270

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[1] Not shown prior to 1908.
[2] Less than 500,000 pounds.
[3] Preliminary.

Compiled from *Anuario del Comercio Exterior de la República Argentina* and *Anuario de la Sociedad Rural Argentina*.

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TABLE 4.-*Exports of principal types of hides and skins from Argentina, 1900-1938*

YEAR	CATTLE	SHEEP AND LAMB	HORSE	GOAT AND KID	TOTAL
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
1900 ....:	113,072	81,220	(1)	3,710	–
1901 ....:	120,823	88,621	(1)	3,948	–
1902 ....:	136,467	89,456	(1)	4,019	–
1903 ....:	114,663	90,591	7,793	3,851	216,898
1904 ....:	115,274	79,939	6,744	4,910	206,867
1905 ....:	143,696	65,203	4,533	5,082	218,514
1906 ....:	123,625	51,378	4,187	5,000	184,190
1907 ....:	119,873	53,360	2,703	2,873	178,809
1908 ....:	142,232	60,399	2,936	5,653	211,220
1909 ....:	196,384	78,598	6,230	6,462	287,674
1910 ....:	200,339	73,748	4,601	4,791	283,479
1911 ....:	232,830	69,157	5,253	5,249	312,489
1912 ....:	242,993	70,603	2,965	5,802	322,363
1913 ....:	191,743	47,017	2,608	5,273	246,641
1914 ....:	172,102	32,683	3,073	3,525	211,383
1915 ....:	198,033	49,744	5,617	5,434	258,828
1916 ....:	219,115	35,874	8,710	6,942	270,641
1917 ....:	210,511	33,547	8,710	4,114	256,882
1918 ....:	215,780	12,478	4,744	3,210	236,212
1919 ....:	223,846	51,662	14,674	7,683	297,865
1920 ....:	140,023	33,953	4,087	2,330	180,393
1921 ....:	183,513	51,594	2,725	6,409	244,241
1922 ....:	310,081	80,602	7,132	5,840	403,655
1923 ....:	332,416	47,326	3,199	4,321	387,262
1924 ....:	448,762	44.061	5,983	3,880	502,686
1925 ....:	370,562	37,465	3,818	6,925	418,770
1926 ....:	373,320	37,399	3,900	5,271	419,890
1927 ....:	376,912	51,751	4,885	6,157	439,705
1928 ....:	313,567	45,880	4,592	5,258	369,297
1929 ....:	285,161	44,420	3,697	6,795	340,073
1930 ....:	302,024	45,807	3,851	6,018	357,700
1931 ....:	257,511	47,646	3,380	4,211	312,748
1932 ....:	244,170	44,645	3,470	3,150	295,435
1933 ....:	279,069	57,758	5,659	8,616	351,102
1934 ....:	273,736	37,793	5,591	4,259	321,379
1935 ....:	302,555	43,607	6,821	5,988	358,971
1936 ....:	306,287	40,073	10,381	6,299	363,040
1937 ....:	313,205	37,319	8,274	5,701	364,499
1938[2] ....:	294,206	40.157	7,277	4,949	346,589

[1] Comparable figures not available. [2] Preliminary.

Compiled from *Anuario del Comercio Exterior de la República Argentina* and *Anuario de la Sociedad Rural Argentina*.
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FRENCH WARTIME CONTROL OF AGRICULTURE . . . . .

By N. William Hazen*

Up until the outbreak of the present hostilities in Europe, there was no Government regulation of French agriculture, except for tobacco and wheat. Plans had been laid since the middle of 1938 for the general organization of the Nation in time of war, but these were put into practice only after September 3, 1939. The machinery for the regulation and eventual control of agricultural production and trade is now almost complete and has been applied with some efficiency. The resulting adjustment of French agriculture to wartime conditions may adversely affect the exportation of American farm products to France, one of the world's four largest buyers of these products.[1]

Although France is agriculturally the most nearly self-sufficient of the belligerent countries in Western Europe. it still has to rely on its empire and the outside world for a substantial portion of its foodstuffs and agricultural raw-material requirements. The country is almost self-sufficient with respect to wheat, wines, and sugar, but must import all its rice and coffee and a large portion of its needs in fats and oils, fruits and vegetables, and secondary cereals. Of agricultural raw materials, France imports all the cotton and rubber consumed and a substantial portion of the wool and lumber.

From the end of the 1914-1918 conflict to the outbreak of the present war, French agriculture (with the exception of the segment devoted to tobacco and, in recent years, to wheat)[2] has been free from Government interference or control. Farmers produced whatever they wanted and as much of it as they liked, relying on their power to have the Government stop or restrict imports when large crops threatened to affect the market for their products. Though advocates of self-sufficiency and closer economic relations with the French possessions have been gaining ground in recent years, and despite the fact that for many years net agricultural imports have been responsible for France's unfavorable balance of trade,[3] no autarchy drive has ever been conducted in the German or Italian manner. It is true that import quotas and restrictions have affected almost all agricultural products. But these measures have been flexible, varying with the size of the domestic crop and aimed especially at maintaining domestic prices rather than boosting them to stimulate any increase in production.

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[1] See "Agriculture in the French Trade Agreement," *Foreign Crops and Markets*, May 18, 1936.

[2] See *Foreign Agriculture* for June 1937. January 1938, and February 1939.

[3] See "Agriculture in the French Balance of Trade," *Foreign Agriculture*, May 1939.

FRENCH WARTIME ORGANIZATION FOR THE CONTROL OF AGRICULTURAL PRODUCTION, SUPPLIES, PRICES, AND TRADE.

(Preliminary as of December 1939)

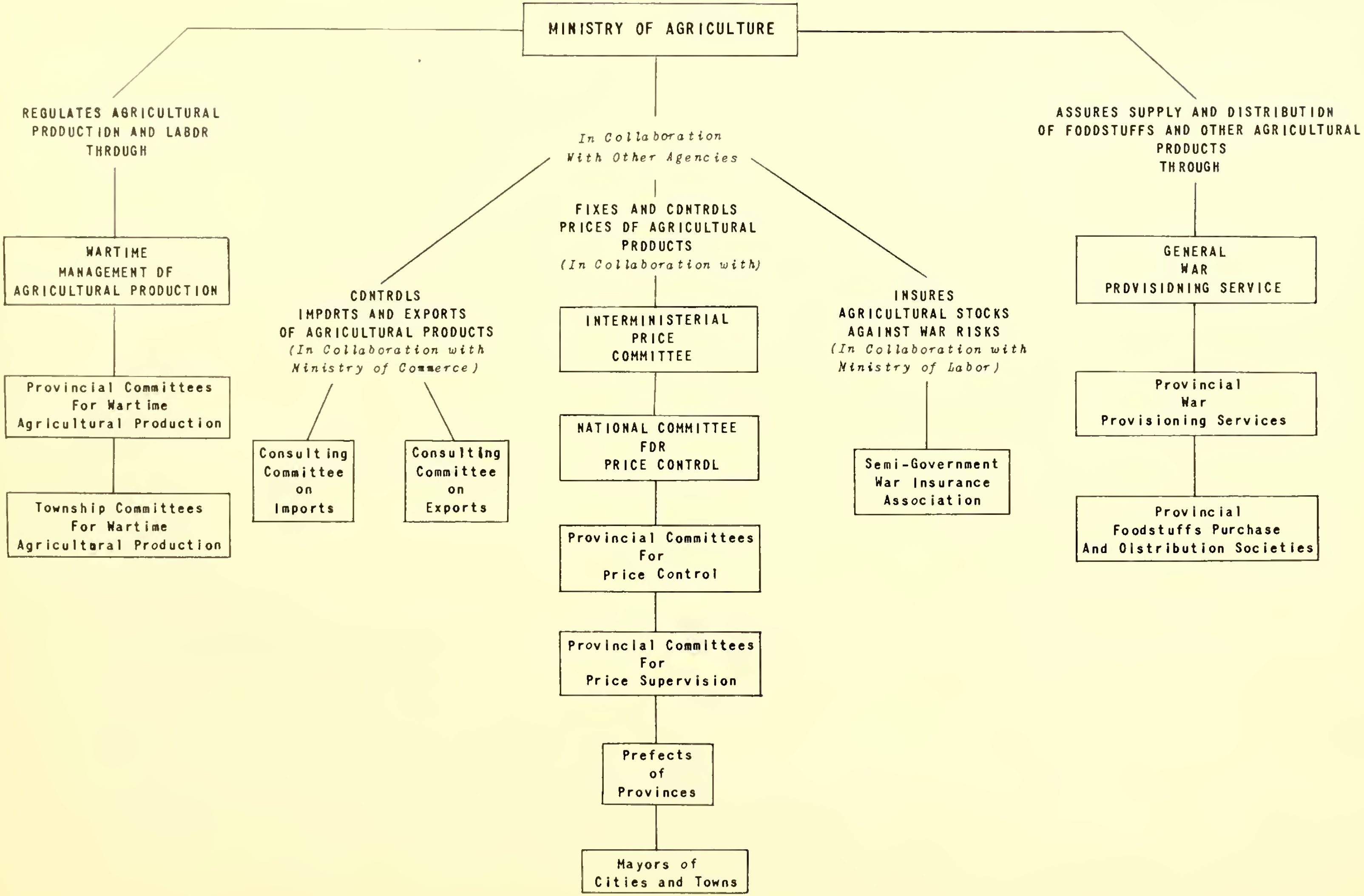
MINISTRY OF AGRICULTURE
REGULATES AGRICULTURAL PRODUCTION AND LABOR THROUGH
WARTIME MANAGEMENT OF AGRICULTURAL PRODUCTION
Provincial Committees For Wartime Agricultural Production
Township Committees For Wartime Agricultural Production
In Collaboration With Other Agencies
CONTROLS IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS (In Collaboration with Ministry of Commerce)
Consulting Committee on Imports
Consulting Committee on Exports
FIXES AND CONTROLS PRICES OF AGRICULTURAL PRODUCTS (In Collaboration with)
INTERMINISTERIAL PRICE COMMITTEE
NATIONAL COMMITTEE FOR PRICE CONTROL
Provincial Committees For Price Control
Provincial Committees For Price Supervision
Prefects of Provinces
Mayors of Cities and Towns
INSURES AGRICULTURAL STOCKS AGAINST WAR RISKS (In Collaboration with Ministry of Labor)
Semi-Government War Insurance Association
ASSURES SUPPLY AND DISTRIBUTION OF FOODSTUFFS AND OTHER AGRICULTURAL PRODUCTS THROUGH
GENERAL WAR PROVISIONING SERVICE
Provincial War Provisioning Services
Provincial Foodstuffs Purchase And Distribution Societies

Figure 1.

Unlike Germany, where agricultural production and trade were under strict Government control for years prior to the outbreak of the present war, France entered this conflict with a comparatively free agriculture; yet the Nation was not unprepared, as in 1914. A plan for economic mobilization in time of war was drawn up as early as July 1938; the power to govern by decree was given to the Cabinet in March 1939; and in April 1939 the foundations were laid to assure the provisioning of the Nation in time of war. This preparatory legislation enabled the Government to act swiftly at the outbreak of hostilities. In less than 2 weeks a number of decrees had laid down the foundation of France's wartime agricultural economy. By the end of the year the machinery to hand over all the country's economy to the State was ready and could have been set in motion almost overnight. If rigid control has so far not been effected, it is mainly because conditions have not yet required it.

WARTIME CONTROL MEASURES

LEGISLATION: BASIC ACTS

What may be called the first indirect French food-defense measure of recent years was adopted with the passage of the Wheat Law of December 24, 1934. This measure, which was intended mainly to alleviate an overstocked wheat market, consisted in the setting up of a "wheat security stock." This was composed of 1 month's wheat requirements, or about 22 million bushels, which at all times were to be kept off the market and held in reserve for use in any national emergency. No other food-defense measure was adopted until the outbreak of the present war.

Law on the General Organization of the Nation in Time of War (July 11, 1938) - This legislation, which was enacted about 3 months prior to the signing of the Munich Pact, laid down the general plan for the preparation and organization of the Nation in the eventuality of war. Among the most important economic measures provided for were the setting up in every Government Ministry of plans and rules to be applied in time of war and the division of responsibilities between these various agencies. Each member of the Cabinet was put in charge of one or a category of resources, for supplies of which he was held responsible to other Ministries in time of war. Power was given him to regulate imports, exports, and consumption of, and trade in, those resources in wartime. In carrying out these responsibilities he could be assisted by a consulting committee composed of representatives of employers and workers in agriculture and in industry. Other regulations made plans for the supervision and control of labor in time of war.

Articles 21 and 24 of this law, which were modified on September 1, 1939, stipulate that (1) prices in collective agreements are to be fixed on the basis of average prices during the 5 years preceding mobilization; (2) in industrial and agricultural enterprises supplying the country's necessities the Government is to deduct from the annual profits 25 percent of all under 2 percent, 50 percent of all between 2 and 6 percent, 75 percent of all between 6 and 8 percent, and 100 percent of all exceeding 8 percent; and (3) the Government is empowered, by means of requisition, to take partial or total possession of any industrial or commercial establishment and run it, the indemnity paid to owners being based on the estimated value on the day of taking possession.

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Law Giving the Government Special Powers for Defense of the Country (March 19, 1939) - by this law Parliament authorized the Government, until November 30, 1939, to take all necessary measures for the defense of the country by decrees issued in the Council of Ministers. All such decrees were to be submitted to Parliament for ratification prior to December 31, 1939.

On November 30, 1939, Parliament gave power to the Cabinet to rule the country by decree for the duration of the war. This was done, however, on condition that all decrees be submitted to Parliament for approval within 1 month after being issued.

Decree on the Provisioning of the Population in Time of War (April 21, 1939) - The first measure taken in peacetime to provide the machinery for effective food control in time of war was enacted a little over a month after German troops completed their occupation of Czechoslovakia. It put the Minister of Agriculture in charge of the general provisioning of the Nation and its overseas possessions in time of war. Under his direction, a general secretary for national provisioning is charged with (1) directing the mobilization in the field of agriculture, especially foodstuffs, and (2) centralizing and coordinating measures of national defense in the Ministry of Agriculture.

The decree also establishes a special mobilization service in the Ministry of Agriculture under the name of the General War Provisioning Service. This is made up of the offices for

(1) the general permanent inspection of agricultural production in time of war, whose functions are to supervise agricultural production in time of war and to prepare the plan for agricultural mobilization, and

(2) the general permanent inspection of national provisioning, whose functions are to prepare the initial plan for the provisioning of the armed forces and other services and to introduce measures for national provisioning.

EXPORT CONTROL

The principal legislation for the control of exports is found in the decrees of August 28 and September 12, 1939. Six days prior to the declaration of war, the decree of August 28 prohibited the exportation from France to any destination other than Algeria and from Algeria to any destination other than France of several products, unless they were accompanied by a special permit from the Ministry of Commerce. This permit is granted after advice from the Consulting Committee on Exports, which was established in the Ministry on September 12, 1938.

The principal agricultural items included in the list requiring special export permits were live cattle, hides and skins, animal fats and oils, all grains, sugar, cotton, flax and hemp, feedstuffs, rubber, and lumber.
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A decree of the same day makes applicable to the colonies, protectorates, and possessions (unless otherwise specified) all export prohibitions then in existence in France or any that might be applied in the future.

Two weeks later, the decree of September 12 added the following agricultural products to the original list of prohibitions: Meats, fresh, frozen, and prepared, meat extracts, margarine, eggs, all dairy products, malt and malt extracts, bread, wheat flour and semolina paste, potatoes, chestnuts, seed for planting, sugar cane. molasses, coffee, cocoa, vegetable fats, hops, beets, bran of all grains, and oilseed cakes. A regulation of the same day stipulated that export permits were to be valid for a period of 60 days, excluding the day on which they were delivered. A further notice published in the *Journal Officiel* of December 17, 1939, increased the period of validity of export permits already delivered or to be delivered to 120 days.

Exceptions to these export prohibitions have since been applied on all merchandise shipped to French colonies and on all goods shipped in direct transit through France to or from the United Kingdom, Switzerland, Belgium, and Italy, and having as destination Allied or neutral countries.

Since the establishment of this export control, minor changes have been made either to tighten or to relax it, according to circumstances and to commodities involved. In general, the policy is to facilitate exports of luxury products in order to obtain foreign exchange and to restrict further the exportation of agricultural necessities to safeguard domestic supplies. Thus, in order to discourage butter exports the regulation of September 24 abolished the export subsidy on butter, which had ranged from 2 to 3 francs per kilogram (from 2 to 3 cents per pound)[4] according to quality. The decree of November 5, 1939, further aimed at discouraging exports when it established export taxes on the following products:

	Francs per 100 kilograms	
Barley	15	(7 cents per bushel)
Malt	18	(18 cents per 100 pounds)
Linseed cake	15	(15 cents per 100 pounds)
Olive oil	200	($2 per 100 pounds)
Other oilseed cakes	10	(10 cents per 100 pounds)
Bran	5	(5 cents per 100 pounds)

A further regulation published in the *Journal Officiel* of December 11, 1939, stipulated that until further notice no export permits would be granted for alfalfa seed. In addition, a decree of December 23 put cider apples and perry pears on the list of products the exportation of which is prohibited unless they are accompanied by export permits. On the other hand, in order to encourage the exportation of Roquefort, blue mold, and soft cheeses, a regulation published in the *Journal Officiel* of the same date exempted these products, until further notice, from the export prohibition, although a notice of December 28 excepted Camembert cheese from the exception. Export restrictions were also removed on dari, millet, and canary seed by the decree of December 23.

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[4] Conversions throughout this article are made at the December 1939 average rate of exchange, or 2.2 cents to the franc, unless otherwise indicated.

Returns from exports are controlled by the decree of September 9, which stipulates that, when foreign buyers pay in foreign exchange, the exporter must deliver all such exchange to the Office of Foreign Exchange within 1 month after payment. When payment is made in francs, on the other hand, the exporter must accept in payment only such foreign holdings of francs as have been authorized by the Office of Foreign Exchange to be used for the purchase of French products.

Under present regulations, therefore, to export any of the agricultural products listed above, an exporter must first obtain a permit from the Ministry of Commerce. Then he advises the Office of Foreign Exchange of his transaction with the foreign buyer, and all payments are made to him through that office.

IMPORT CONTROL

In order to save the French reserve of foreign exchange for the purchase of absolute necessities, the French Government has applied a complete control over the country's import trade, although it has not taken it over.

Permits required for all imports - On September 1, 1939,[5] a decree prohibited the importation into France and Algeria of all products except gold. Exceptions to this prohibition, however, may be authorized by the Minister of Commerce. The control of imports from French possessions into France, and vice versa, is also placed in the hands of the Minister of Commerce and of the other Ministers concerned. Applications for import authorizations must be addressed to the responsible Ministers, who dispose every month of the quotas fixed by the Consulting Committee on Imports of the Ministry of Commerce.[6] Permits to import goods from European countries are good for 90 days, while those issued for goods imported from countries outside Europe are valid for 120 days.

This decree does away in one stroke with the system of import quotas and restrictions that has ruled the French import trade since 1932. It makes the Minister of Commerce, in collaboration with the other Ministers, who are each responsible for a group of products, the sole judge of when, what, and how much of any product should be imported. To be sure, private individuals and organizations still do the importing, but under the Government's strict control.

In order to facilitate the importation of agricultural products that may be needed to meet domestic requirements, a Committee for the Importation of Agricultural Products was formed on October 27, 1939, in the Ministry of Agriculture. Its functions are (1) to advise on requests for imports submitted to the Ministry of Agriculture by importing groups or individual importers; and (2) to suggest to the Minister of Agriculture the method of granting authorizations when the total demand exceeds the quota. This Committee is made up of 32 sections, the most important being those on meats, poultry, dairy products, fruits and vegetables, and wines.

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[5] Certain war measures enacted shortly after the beginning of the war were dated September 1 and made retroactive to that date.

[6] To cover its operating expenses, this Committee was authorized, by the decree of October 22, 1939, to levy a tax not exceeding 0.7 percent of the value of the goods imported. The fee of 10 francs (about 22 cents) paid on each request for an import permit was abolished by decree of December 3, which stipulated that the 0.7-percent tax should not be less than 10 francs.

On November 1 a commission was formed in the Ministry of Agriculture to examine litigations arising from the granting of authorizations to import and export agricultural products. It is composed of the Assistant Director of the Bureau of Agricultural Production as president, the Chief of the Economic Service of that Bureau, one representative of the Ministry of Commerce, one of the Ministry of Finance, and two of producers and dealers.

Exchange permits required - A decree of September 9 established an exchange control over imports into France and the French possessions. These may be made only after a certificate is obtained, proving either that the delivery of foreign exchange to pay for them has been authorized by the Office of Foreign Exchange or that they require no settlement in foreign exchange. In other words, no imports are allowed unless the importer has both an import permit from the Ministry of Commerce and a permit from the Office of Foreign Exchange authorizing payment.

Tariff modifications - With a view to building up stocks and assuring the supplies of products of which France is more or less deficient, import permits have been granted for many agricultural products and in some cases tariff duties have been either suspended or reduced. The following are some examples of the exemptions granted.

The decree of September 26, 1939, abolished until December 31 the import duties on horses for slaughter and on fresh and frozen horse meats entering France or Algeria.

On September 27 a duty-free import quota was established by decree for 450,000 boxes of oranges originating in, and to be imported directly from, the states of the Levant under French Mandate, from February 25, 1939, to March 31, 1940.

The import tax on chilled mutton, pork, and beef, which was suspended by the decree of August 29 until September 30, was again discontinued until March 31, 1940, by the decree of October 27.

The decree of October 27 also provided that dealers having imported raw and refined sugars prior to November 1 (provided shipments were made between May 16 and September 16) would receive a drawback on the import duty, which was not to exceed 60 francs per quintal (about 60 cents per 100 pounds). Furthermore, importers of sugar under the "temporary admission" system from August 1 to October 31 were freed of their obligation to export proportionate quantities of sugar, provided they delivered this sugar on the local market for domestic use during the period from November 15, 1939, to January 15, 1940. They were also to receive the same drawback on the duty paid.

A decree published in the *Journal Officiel* of November 4, 1939, provides for duty-free entry into France of stallions, geldings, and mares imported by agricultural syndicates and cooperatives under conditions fixed by the Ministry of Agriculture, as well as of horses and mules intended for the Army Remount Service.

A decree of November 10 abolished the tariff duty on imports into France and Algeria of stallions, geldings, mares, and mules (without qualification as to importers), and dried beans, lentils, and peas, shelled, whole, or broken. A decree of the same day suspended the import-license taxes on these dried vegetables. Both measures are effective until June 30, 1940.

That the French do not want to be caught with short supplies of meats and meat products and are also anxious to keep prices from rising is indicated by the facilities accorded importers of these products. By a decree dated November 29 the import duties on the following products entering France and Algeria were suspended until June 30, 1940: Cattle of all kinds (including oxen, cows, bulls, steer bullocks, heifers, and calves), fresh and chilled meats (except mutton and pork), salted or pickled pork, ham, and bacon (including other uncooked pork), pork butcher's products (including sausage), tallow, and lard. Import taxes on fresh, chilled, salted, and prepared beef, delicatessen meats, and lard were also suspended until the same date by the decree of December 6. Importers are still required, however, to obtain import and foreign-exchange permits.

Another decree of November 29 is more general in nature. It provides that until the date of the cessation of hostilities foreign products, subject on account of their origin to the general tariff, may, on the request of the Minister responsible for the resources of the kind concerned and after the favorable advice of the Ministers of Foreign Affairs and Commerce, be admitted at the minimum tariff rate. This exception is granted, however, only when the products either are recognized as indispensable for the economic life of the country or are destined for the equipment or provisioning of plants working for national defense.

Cotton import monopoly[7] - A few months prior to the outbreak of the war, the French Military Intendancy requested the Association of French Cotton Merchants to draw up plans for an organization to handle the importation and distribution of cotton in the event of war. A new Organization for the Wartime Importation and Distribution of Cotton was formed with a capital stock of 500,000 francs (about $11,000) and with a board of directors of eight cotton merchants from Havre.

Since the beginning of the war, this new organization has controlled cotton imports into France. The procedure in effect by the middle of October was as follows: Cotton was purchased by the organization from offerings made by Havre agents; these purchases were allocated to the Havre cotton merchants in lots proportionate to the capacity of the merchant to finance the transaction; merchants were allowed a commission of 1¼ percent for handling the transactions, of which one-fourth of 1 percent was returned to the organization. The 1 percent was the only profit allowed the merchant on the transaction.

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[7] Summary of a report by Samuel H. Wiley, American consul at Havre, France, entitled "The Cotton Situation in Havre, France," dated October 17, 1939.

PROVISIONING OF THE NATION

Two days prior to the declaration of war, a decree (issued under authority of the basic act of April 21, 1939, on the Provisioning of the Population in Time of War - see above, page 34) provided rules and regulations for the supply and provisioning of the Nation in agricultural products. The Minister of Agriculture, who is charged with the general provisioning of the Nation, was authorized to assure the distribution, either directly or through intermediate groups, according to consumption requirements, of agricultural products, foodstuffs, and other substances acquired by the General War Provisioning Service. Purchases are to be made directly by that Service, and a Commission is to be formed in the Ministry of Agriculture to examine the conditions of purchase.

All provisioning operations are to be applied to a special account in the Treasury entitled "General Provisioning of the Nation in Time of War." This account is supplied with a fund of 8 billion francs (about 176 million dollars) taken from the Treasury, and general provisioning expenditures are to be debited to this fund from the first day of mobilization. The account will be replenished from payments made by administrations and private organizations for goods delivered by the General War Provisioning Service.

Prices paid for products purchased by the General War Provisioning Service (other than those the price of which is fixed by law and other than imported products) are fixed by the Minister of Agriculture. In fixing these prices, the latter may ask the assistance of the Consulting Committee (established by the law of July 11, 1938 - see above, page 33), as well as the National Committee for Price Control (see page 49 below). Regulations regarding the choice of substitutes and the percentage of their incorporation in foodstuffs will be fixed by the Minister of Agriculture.

This decree, which is applicable to Algeria, as well as France, may be applied in part or in whole to other French possessions, at the discretion of the Minister of Colonies.

Provincial Foodstuff Purchase and Distribution Societies (decree of October 27, 1939) - This act authorizes the Minister of Agriculture to create in each of France's 90 Provinces special groups (societies) whose function is to facilitate the provisioning of the civilian population in foodstuffs and other agricultural products in case normal supplies are affected as a result of insufficient local organization, reduction in imports, or small domestic production.

More specifically, the functions of these groups are (1) to acquire (purchase) on behalf of the Provincial wholesalers or for direct use foodstuffs and agricultural products needed for the provisioning of the Province; (2) to sell such foodstuffs and agricultural products to industrialists or merchants of the Province, or to distribute them to the latter according to their needs and to the existing stocks; (3) gradually to build up and maintain stocks of these foodstuffs and agricultural products; (4) eventually to sell or cede these foodstuffs and products either to similar groups (in other Provinces) or to the General Provisioning Service.

The Minister of Agriculture fixes, at all times and for every section of France, the foodstuffs and other agricultural products to be handled by these Provincial societies, as well as the nature of their operations. He may also compel the intervention of these societies in the acquisition or distribution (within one or more Provinces) of certain foodstuffs or other agricultural products.

The Provincial societies may not sell the foodstuffs or agricultural products they handle at a price above the original cost plus the cost of handling, insurance, and returns (to be fixed by the Minister of Agriculture) on capital invested. They will take the form of limited societies with varied capital. Their statutes must be similar to types approved by the Minister of Agriculture and may not be modified without his consent. Only persons who dealt in foodstuffs and agricultural products prior to September 1 may become members of such groups and own stock in them. The duration of these societies is limited to the war period, unless they are dissolved for financial reasons before that date. The board of directors is appointed for 5 years and meets at least once a month. The societies must submit to the permanent control of the Minister of Agriculture or his representatives.

Inter-Provincial societies may also be formed to satisfy certain regional requirements. They will have the same functions and will submit to the same rules as the Provincial groups.

The societies now formed will be dissolved in accordance with the stipulations of their statutes or of the present decree 6 months, at the latest, after the cessation of hostilities. Their reserves and other funds, after liquidation of all liabilities, will be deposited in the special account created in the National Treasury by the decree of September 1 on the Provisioning of the Nation in Time of War.

Control of stocks - In order to check at all times the quantities of foodstuffs available, the decree of October 27, 1939, empowers the Minister of Agriculture to require persons or associations normally or occasionally engaged in the purchase for resale, or otherwise dealing in, foodstuffs and feedstuffs (1) to declare periodically the quantities of foodstuffs and feedstuffs they possess and to keep open for inspection by the Ministry of Agriculture all books on purchases and sales of such products; (2) to build up and maintain stocks of these foodstuffs and feedstuffs.

Further regulations issued by the Minister of Agriculture will determine, for all or part of France, the foodstuffs and feedstuffs that must be declared or stocked; as well as conditions under which control measures shall be applied. Such regulations have already been issued for animal and vegetable fats and some dairy products (milk and Gruyere and Emmenthaler cheese) by decrees of November 18 and 20, respectively.

Provincial provisioning services - Although the French Government believes war conditions thus far do not warrant a very strict interference with domestic production and trade, it has set up (by circular of October 30, 1939) elaborate machinery with a view to assuring the country of its supplies of foodstuffs. In every one of France's 90 Provinces a Provisioning Service (similar to the National organization) has been established to control and assure the supply of foodstuffs in the Province. It is made up of the Provincial Committee for Provisioning, which is the consulting organization on provisioning, as well as several other commissions. The prefect of the Province is the general manager of the service, and the military administrator of the Province and the director of agricultural services are members. The prefect is responsible for all measures intended to meet the essential needs of the civilian population of the Province. He receives his instructions from the Minister of Agriculture and sees to it that they are faithfully executed by the military administrator of the Province and the director of agricultural services. Specifically, the functions of the prefect are (1) to inform the Minister of Agriculture of the Province's need in foodstuffs; (2) to urge producers, dealers, and consumers to enter into agreements in order to facilitate the work of the service, and to encourage the establishment of Provincial Foodstuff Purchase and Distribution Societies and control their activities; (3) to supervise the application of measures concerning the production, transportation, distribution, and consumption of foodstuffs; (4) to use his powers of taxation and control over the prices of these foodstuffs; and (5) to preside over the Provincial Committee for Provisioning.

The military administrator of the Province assures, under the authority of the prefect, the management and operation of the service. To satisfy the foodstuff requirements of the armed forces in the Province, he receives his instructions from the Minister of Agriculture. As for the needs of the civilian population, he sees that the measures prescribed by the Minister of Agriculture or the prefect are executed. He is a member of the Provincial Committee for Provisioning and its commissions.

The director of agricultural services is by right a member of the Provincial Committee for Provisioning and all its commissions. His functions are (1) to establish an inventory of the agricultural resources of the Province; (2) to report exactly on the existing supplies of foodstuffs in the Province, as well as the means of their production; (3) to apply measures intended to increase production and facilitate provisioning.

Regulation of principal commodities - Among the measures of national importance already applied to assure the foodstuff supply of the country, those concerning wheat and meats are noteworthy.

The first regulation affecting *wheat* consumption after the outbreak of the war was set forth in the decree of September 9, 1939. This act stipulated that, beginning with September 16 the rate of flour extraction for human consumption was to be fixed at 2 points above the average specific weight of soft wheat in each mill.

The second wheat measure concerned the trade in, and deliveries of, this grain. Trade in wheat must be done exclusively through wheat cooperatives and registered organizations and dealers designated as *organismes stockeurs* (organizations stocking wheat). Beginning with the 1939-40 crop year, a producer may not deliver the wheat of any of his holdings to more than one *organisme stockeur*. Farmers or share-croppers harvesting wheat must indicate on the affidavit estimating the crop in each of their holdings the *organisme stockeur* to which they intend to deliver their wheat. If the wheat is delivered to a dealer, the Regional Agricultural Credit

Bank through which they choose to receive payment must be indicated in the affidavit. Farm laborers paid in wheat who want to dispose of it must make similar declarations to the Office of Indirect Taxes.

A third measure referred to the maintenance of wheat stocks. The decree of October 4, 1939, stipulated that from November 1 millers would have to keep a stock of soft wheat and flour, or hard wheat and semolina, equal to at least two-thirds of their monthly average milling during the period September 1, 1938, to August 31, 1939. Millers keeping stocks in excess of the full monthly average for the above period will receive a subsidy of 5 centimes a day for each quintal (0.03 cent a day for each bushel) carried in stock over and above that average. If during any day of the month the stocks held fall below the full average, the miller will lose the right to a subsidy for that month. In figuring out the wheat stocks, flour and semolina must be converted to wheat on the basis of the official rate of extraction.

Another decree of October 4 allows farmers to produce as much wheat as they want. The prohibition against planting a wheat acreage in excess of the previous 3-year average or on land producing it the preceding year (as decreed by the wheat law of December 24, 1934) is revoked for the duration of the war. Similarly, the requirement that in years of large crops wheat producers shall deliver their surpluses to the National Wheat Board at a specified price and the compulsory system of production quotas for wheat growers producing over 50 quintals (about 184 bushels) are abolished for the duration of the war.

The monopoly to import into, and export wheat from, France, which until now was exercised by the National Wheat Board, will, for the duration of the war, be conducted by the Minister of Agriculture.

Measures to assure the supply of hard wheat are given by the decree of October 27. This act stipulates that for the duration of hostilities the supplying of hard wheat and semolina in France is to be assured, under authority of the Minister of Agriculture, by the Committee on Semolina (established on July 21, 1938), and by special French, Algerian, and Tunisian groups appointed for this purpose by the Minister of Agriculture.

Every 3 months the Minister of Agriculture, on advice of the Committee on Semolina, estimates the French semolina needs for the following quarter and opens a quarterly semolina quota destined to satisfy those requirements. The Committee on Semolina distributes this quota among the groups mentioned above. These groups, in turn, distribute the allotment to their members in proportion to average deliveries made during the 3-year period 1936-1938.

The first measure for the mixing of other grain with wheat in bread making was enacted by the decree of November 3. This may be only a beginning, which, if the war continues for any length of time, may be expanded both in type and proportion of mixtures used. Specifically, the decree stipulates that, for the duration of the war, millers using less than 3,000 quintals (about 11,000 bushels) a year are authorized to incorporate in wheat flour used for bread making a maximum of 2 percent of rye flour. The latter, however, must be of French or French colonial origin. Bread flour containing rye must bear a tag indicating such incorporation.

Aside from the measures adopted to facilitate *meat* imports (abolition of tariff duties on all livestock and meats entering France - see page 37) the Government has acted to conserve the meat supply of the country by regulating the slaughtering of certain animals and introducing a system of days of compulsory restriction of meat consumption. Thus, the decree of September 26 provides that the slaughtering of horses or mules for human consumption is to take place only in regularly inspected public abattoirs. It forbids the slaughter for use as meat of horses of less than 15 years of age and mules of less than 12 years. This prohibition, however, does not apply to domestic horses and mules that have been injured.

Days of restricted meat consumption have been made compulsory by the decree of October 13. This act stipulates that from October 18, 1939, until a date to be fixed later it is forbidden to display or sell on Mondays fresh, frozen, chilled, salted, prepared, or canned beef, calf, or lamb. Butcher shops (except those selling horse meat) and all sections of stores where fresh, frozen, chilled, salted, or canned beef, calf, and lamb are sold will be closed on Mondays. It is also forbidden on Mondays to display or serve beef, calf, lamb, or dishes containing such meats in any form or proportion in establishments open to the public, especially hotels, boarding houses, restaurants, dining cars, clubs, inns, cafes, bars, and tea shops. Since October 18, the sale of beef has also been forbidden on Tuesdays. It is also forbidden to display or serve on that day any beef or dishes containing beef in any form or proportion in the establishments mentioned above.

The decree of November 29 provides that from December 15 until further notice the sale or display of the following fresh, frozen, chilled, salted, prepared, canned, or preserved meats is forbidden on Fridays: Beef, calf, mutton, goat meat, horse meat, pork, and delicatessen meats of all kinds.

In the case of the first 2-day restrictions, the prefects of Provinces are authorized to substitute another 2 consecutive days, according to conditions in particular communities.

In order to reduce *tobacco* imports and thus conserve foreign exchange, tobacco consumption is being discouraged. To this end a decree of November 13 authorized the State monopoly to increase the sales price of all tobaccos, cigars, and cigarettes by 28 percent.

ANGLO-FRENCH ECONOMIC AND FINANCIAL COOPERATION

Of great importance for the economic conduct of the war are the agreements reached between France and the United Kingdom, 2 months after the outbreak of hostilities, for the pooling of their purchases abroad and the pegging of their currencies at a specified rate. Similar agreements were not reached in the 1914-1918 conflict until the end of the third year of the war, when the Allied Supply Council was established. By these agreements, facilities are made for French purchases in the British Empire countries and British purchases in the French Empire of needed raw materials at favorable prices. To avoid competition in purchases from countries other than the two empires, these are to be undertaken by a special Anglo-French Coordinating Committee with headquarters in England. Shipping facilities also are to be pooled to increase efficiency and avoid waste.

In the financial field, payments of one country to the other are to be settled through a clearing agreement, with no gold transfers, and sums due each other will be offset as far as possible. It may be said that as a result of this agreement France, although still using francs, has become a member of the sterling bloc.

These agreements are war arrangements, although they are to remain in effect for 6 months after the signing of the peace treaty. Their present set-up includes (1) a major Anglo-French Coordinating Committee, with headquarters at London, which coordinates the work of six Anglo-French committees, each dealing with a specified group of products; (2) six Anglo-French committees established at London, which are responsible for cooperation in the following fields: Air, armaments and raw materials, oil, food, shipping, and economic warfare; (3) one French National Committee, with headquarters at Paris, to execute the decisions of the six Anglo-French committees of London as they affect France, which has as president the French Premier and as vice president the Minister of Finance; (4) one English National Committee, with headquarters at London, to execute the decisions of the six Anglo-French committees as they affect the United Kingdom, which has as president the British Prime Minister and as vice president the Chancellor of the Exchequer.

Economic agreement - At the end of the meeting of the Allied Supreme War Council held at London on November 17, 1939 (i.e., the third meeting of that Council since the outbreak of hostilities) the following joint statement was issued by the British and French Prime Ministers.[8]

> "With a view to making full use of the experience gained in the years 1914-1918, the British and French Governments decided from the outset of the war to coordinate in the fullest possible manner the economic war effort of the two countries. Immediate steps were taken at the outbreak of war with this object in view.
>
> "In pursuance of decisions reached by Mr. Chamberlain and Mr. Daladier at the last meeting of the Supreme War Council the arrangements already put into effect by the two Governments have now been strengthened and completed in such a way as to ensure common action in the following fields: Air, munitions and raw materials, oil, food, shipping, economic warfare.
>
> "The new measures adopted by the two Governments will provide for the best use in the common interest of the resources of both countries in raw materials, means of production, tonnage, etc. They will also provide for the equal distribution between them of any limitations, should circumstances render necessary a reduction of the programmes of imports.
>
> "The two countries will in future draw up their import programmes jointly and will avoid competition in purchases which they have to make abroad in carrying out those programmes.
>
> "The execution of these tasks has been entrusted to permanent Anglo-French Executive Committees, under an Anglo-French Co-ordinating Committee, which are being set up immediately.

[8] *The Times*, London, November 18, 1939.

> "The agreements reached, which can, if required, be extended to other fields, afford further evidence of the determination of the two countries to co-ordinate their war efforts to the fullest possible extent. By this means, arrangements have been carried into effect two months after the beginning of hostilities for the organisation of a common action by the two countries, which was only achieved during the last conflict at the end of the third year of the war."

Financial agreement - Continuing the policy of economic collaboration, during the war, between France and the United Kingdom the two Governments entered into a financial agreement in the first week of December. This far-reaching pact stabilizes the currencies of the two Nations and establishes the basis for financial responsibilities in the conduct of war. Following is the official summary of the principal points of the agreement.[9]

> "1. The two Governments have agreed that it is in the interest of both countries to avoid alterations in the existing official rate of exchange between the pound and the franc.
>
> "2. The francs required by the United Kingdom - including those for the British Expeditionary Force - will be provided against payment in sterling, and the sterling required by France - including that required for the purchases of raw materials in the British Empire - will be provided against francs. Both countries will for the duration of the war be in a position to cover the whole of their requirements in the currency of the other country by payment in their own currency without any question of their having to find gold.
>
> "3. The sterling held by the French monetary authorities will be available for expenditure throughout the sterling area, and the francs held by the United Kingdom monetary authorities will be available for expenditure throughout the French Empire.
>
> "4. The question of sharing equitably the expenses necessitated by the conduct of the war which the two Governments have to defray in gold and dollars will be kept under review.
>
> "5. The United Kingdom and French Treasuries will have frequent meetings to review the position of the Allied Governments as regards their resources in gold and foreign exchange.
>
> "6. Neither Government will raise a foreign loan or credit except in agreement with - or jointly with - the other Government.
>
> "7. Neither Government will impose fresh restrictions on the imports from the other country during the war for protective purposes or for exchange reasons.
>
> "8. The two Governments will maintain contact as regards their policy in regard to prices.
>
> "9. Finally, the two Governments will share certain items of expenditure in the common cause, such as financial assistance to other countries and the cost of the armed forces of their Polish ally. The contribution of the two Governments will be fixed on a basis which will take due account of the national wealth of each. In general the French contribution will be 40 per cent and the United Kingdom contribution 60 per cent of the total.
>
> "10. These arrangements will remain in force till six months after the signature of the treaty of peace."

French National Committee - Following the economic agreement reached between the French and the British Governments on November 17, the French Government established by a decree published in the *Journal Officiel* of November 23, 1939, a special national committee for Allied purchases. Its functions are-

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[9] *The Manchester Guardian Weekly*, Manchester, December 15, 1939.

1. To coordinate, on the basis of proposals submitted to it by the various Ministers, the programs of purchases abroad, which must then be transmitted to the Anglo-French executive committees at London. In this connection, the various Ministers will submit to the Committee their import programs, with justification based on supplies in France, possibilities of national production, and all general information enabling the Committee to decide on the necessity or urgence of purchases abroad.

2. When circumstances require the tightening or modification of national or Allied programs, to decide on adjustments to be made between purchase programs of the various Ministers, to establish between them the desired priorities, and generally to suggest to the Government the appropriate measures to be taken.

3. When it is deemed necessary, to submit to the Council of Ministers all questions requiring a full Government decision.

The Committee is composed of 11 permanent members, all of the Cabinet, with the Premier as president. In meetings dealing with products the responsible Minister of which is not a permanent member, this Minister is invited to attend. The Committee meets at regular intervals or upon the request of one of its members.

The general secretariat of the Committee is under the Minister of Finance. Its function is to coordinate the work of the interested ministerial departments. It is informed of the despatching abroad of French and British purchase missions, in order to avoid duplication and assure the most efficient use of the French personnel of these missions.

REGULATION OF AGRICULTURAL PRODUCTION

No strict control has as yet been established over French agriculture. In fact, the only measures adopted so far have been aimed mainly at guiding and assisting farmers in adjusting their production to wartime needs. The doctrine of the Minister of Finance to "produce as much as possible, and spend as little as possible" is also advocated for agriculture, and means are employed to put it into practice. Persuasion rather than compulsion has so far been the rule in trying for this goal.

Wartime management of agricultural production - The General Inspection of Agricultural Production, which was established by the decree of April 21, 1939, with a view to the mobilization of agriculture, was attached to the Office of Agricultural Management in the Ministry of Agriculture by a decree of October 4. For the duration of the war this office will be called Wartime Management of Agricultural Production.

Provincial committees for wartime agricultural production - A decree of September 3 provided for the establishment of a committee for agricultural production in time of war in each Province. The committee is composed of the prefect of the Province as president, the director of agricultural services, the chief engineer of rural public works, the director of veterinary services, and nine members appointed by the prefect. Three of the latter are municipal counsels, three members of the Provincial Chamber of Agriculture, and three outstanding members of the rural community.

The function of the committee is to guide and assist farmers in adjusting agricultural production with a view to satisfying the Nation's food requirements. It suggests, approves, and sees that measures are adopted to facilitate the providing of agricultural labor, draft animals, fertilizers, seed, and fodder to farm enterprises. It also directs and coordinates the work of the township committees.

A permanent commission is created within the committee. Special commissions may also be formed as the need arises. A labor commission and a fertilizer commission are already established under present regulation. The president is to call a meeting of the permanent commission at least once a month.

Township committees for wartime agricultural production - Committees for agricultural production in time of war are also created in each township. These are composed of the mayor of the town as president and from three to five members, chosen preferably from among the presidents of agricultural groups and associations. The committees meet as often as necessary.

The functions of the township agricultural committees are (1) to assure the utilization, in the best general interests, of existing working facilities (labor, draft animals, tractors, etc.), and to inform the Provincial committee of any need for improvement; (2) to determine and inform the Provincial committee of the needs of the township in raw materials necessary for agricultural production (especially seed, fertilizers, feed, agricultural machinery, etc.); (3) to distribute in each village or community, according to its needs, the supplies both in labor and in raw materials provided for by the Provincial committee; and (4) to inform the Provincial committee of the existing uncultivated or neglected land and to suggest means for its best use.

Mechanization in agriculture - To maintain agricultural production despite the depletion of the farmers' ranks by the mobilization of men, some official impetus is being given to the use of mechanized agricultural implements. A regulation of September 5 established an Office for the Mechanization of Agriculture in the Ministry of Agriculture. This office, which is set up for the duration of the war only, will deal with all questions relating to agricultural machinery and the promotion of mechanization in agriculture. Its director is a general inspector of agriculture and is assisted by a chief engineer of rural public works.

In order to facilitate the purchase by farm groups of tractors and parts and engines thereof, the decree of September 26 provided that Government subsidies would be granted, for the duration of the war, to groups using agricultural machinery or to communities employing common means of production. The subsidies will be charged to the special credits opened for the Ministry of Agriculture by the decree of September 1. The decree of October 13 fixed the maximum amount of this subsidy as follows: 20 percent of the purchase price for tractors; 30 percent of the cost of installing or repairing generators on tractors and other vehicles.

Another decree of November 15 established a Consulting Committee on Agricultural Machinery in the Ministry of Agriculture, with the Minister or his representative as president. This committee is to advise on all questions relating to agricultural machinery submitted to it by the Minister of Agriculture. It may make any suggestions it believes useful and must also keep posted on everything concerning the production, importation, and exportation of agricultural machinery.

Regulation of farm labor - To assure an adequate supply of farm labor for the duration of the war, the decree of September 1 increased the legal working hours from 40 a week to 60, provided the daily work does not exceed 11 hours. In the case of women and children, the work day is not to exceed 10 hours.

Farm laborers now have to work 45 hours a week to get the pay they formerly received for 40 hours. A decree of September 26 stipulated that the employer was to deposit in the French Treasury the remuneration that should go to the worker for the extra 5 hours of labor. All hours over 45 are to be paid for on the basis of 60 percent of the normal hour's wage, which is one forty-fifth of the wage formerly paid for 40 hours of work. The other 40 percent of the wages paid for overtime is to be deposited by the employer in the Treasury to build up a fund for war-relief families.

The salaries of men from 18 to 49 years of age who do not belong to a military group will be taxed 15 percent beginning October 1, 1939. The proceeds of this tax will go to the aforementioned fund.

The application of legislation for conciliation and arbitration of labor disputes, both in industry and agriculture, is suspended. The application of collective agreements and contracts relative to salary revisions is also suspended.

On September 16, the Minister of Labor was made for the duration of the war solely responsible for the organization, regulation, and utilization of labor in France. In cooperation with the Ministers of Agriculture, Public Works, and Armaments, he is to collect and centralize information regarding labor requirements in public and private enterprises; assure the recruiting of workers of both sexes, according to their technical abilities; determine the needs for colonial and foreign workers and provide for their best utilization; organize and control professional and technical workers in the military and economic defense of the country; and regulate working conditions in the various branches of the national economy.

The professional and geographic distribution of labor among public, private, military, industrial, and agricultural services is done by the Minister of Labor after consultation with the interested administrations. Once the workers have been assigned to agriculture, however, their complete control and utilization comes under the Minister of Agriculture. The Minister of Labor may ask the Ministers of National Defense, Marine and Air, for the recall from war service of special technicians indispensable in enterprises working for national defense or executing a public service.

Consulting Committee on Fertilizers - A Consulting Committee on Fertilizers, under the presidency of the Minister of Agriculture, was established in the Ministry of Agriculture by the decree of December 2. Its functions are to advise on questions submitted by the Minister as to agricultural needs, as well as to the supply and distribution of fertilizers. It is to make any suggestions deemed useful, and must keep posted on plans for the production, importation, and exportation of fertilizers.

PRICE CONTROL

Fixing of foodstuff prices - To prevent war speculation and an abnormal rise in the cost of living, the Government adopted its initial measure of price control as soon as it appeared that war was inevitable. The decree of September 1 provided that wholesale prices of foodstuffs and other agricultural products (with the exception of those the prices of which are already fixed by existing legislation) would be fixed by decree of the Council of Ministers, on the suggestion of the Minister of Agriculture. The Consulting Committee and the National Committee for Price Control may be consulted for this purpose. The same decree determines the limits to which the prefects of Provinces may go in fixing retail prices. In the case of meat, however, the prefect will fix the retail price only if asked to do so by the mayor (who is empowered by law to do it) or if the latter refuses to use his power. Every merchant and dealer will have to display the fixed sales prices and place on each product for sale a tag indicating that price.

It was not until September 9 that price-fixing actually went into effect. A decree of that day provided that any increase in the wholesale or retail prices of foodstuffs and other agricultural products of any kind (except those, such as wheat, which are already fixed by the Minister of Agriculture or those sold directly by producers without intermediaries) over and above those in effect on September 1 would be prohibited. Special authorizations for price increases may be allowed by the National Committee or Provincial Committees for Price Control when conditions in enterprises or changes in prices of imported products justify it. Sales of products for export are not subject to the provisions of this decree.

Interministerial Price Committee - This price fixing does not apply to materials the importation or production of which is regulated by a responsible member of the Cabinet. For such products price advances over those in effect on September 1 may be authorized by the responsible Minister, after advice from the Interministerial Price Committee. This Committee, which acts only as a consulting agency for members of the Cabinet, was established September 30, 1939. It is composed of seven members representing six Ministries, including the Ministry of Agriculture, and has for its president the High Commissioner for National Economy.

National Committee for Price Control - The National Committee for Price Control was established by the decree of September 9. Its functions are (1) to study demands made by national organizations for price advances (and grant authorizations for the latter) when the products involved are of interest to the country as a whole; (2) to approve all recommendations for price increases submitted by Provincial Committees for Price Control; and (3) to decide on appeals made by applicants after the refusal of the Provincial committees to grant authorizations for price increases. The Committee is composed of 17 members, with the High Commissioner for National Economy as president. Eight Ministries, including the Ministry of Agriculture, are represented. The membership also includes one representative each from industry, commerce, agriculture, consumers, workers, and veteran organizations.

Provincial Committees for Price Control - The decree of September 9 also establishes a committee for price control in each of France's 90 Provinces. The functions of these committees are (1) to study demands made by Provincial organizations for price increases and, when necessary, to authorize such increases, but only after advice and direction from the National Committee; (2) to study questions and proposals submitted to them by the National Committee; and (3) to take action, after approval by the National Committee, against persons or groups believed guilty of unauthorized price increases. The committees are composed of five members, with the prefect of the Province as president. The director of agricultural services represents the Ministry of Agriculture.

Provincial Committees for Price Supervision - The decree of October 26, 1939, provides for the establishment in each Province, under the guidance of the Provincial Committee for Price Control, of one or more price-supervision committees (according to the size and population of the Province) to watch over wholesale and retail prices and report any infractions of the decree of September 9, prohibiting price increases. The members of the committee, who serve without remuneration, are appointed by the prefect of the Province from among Government pensioners.

COMMODITY INSURANCE SCHEME

Sugar insured against war risks - In order to protect domestic sugar production against loss or destruction resulting from the war, the Government authorized the National Association for the Importation and Distribution of Sugar, by decree of October 19, to cover, for the 12-month period October 1, 1939, to September 30, 1940, all war risks to which sugar beets and sugar may be exposed. This insurance applies to sugar beets received by sugar producers and to sugars in process of manufacturing and in stock.

To cover insurance costs, farmers must pay the National Association 5 francs, or about 11 cents, per ton of beets delivered to sugar manufacturers. The latter will pay 5 francs per quintal, or about $1 per ton of sugar produced. If during the 1939-40 crop year returns exceed the amount of claims paid out, the surplus will be distributed to policyholders in proportion to their payments. If the claims paid exceed the returns, the deficit will be made up by the Minister of Agriculture from the special account entitled "The Provisioning of the Nation in Time of War."

The decree stipulates that in case an association for general insurance against war risks is formed under the control and with the aid of the Government, the National Association for the Importation of Sugar may take up with the new organization all insurance deemed necessary.

War Insurance Association - By another decree of October 19, 1939, an association for the insurance of stocks and commodities against war risks was established from among fire-insurance companies designated by the Minister of Labor. The list of products to be insured will be issued by the responsible Ministers. Risks will be covered jointly by the State and the association. Premiums are fixed upon the latter's suggestion by regulation of the Ministers of Labor and Finance.

The association is under State control exercised by the Minister of Labor. The Government may at any time end the operations of the association and determine the conditions of its liquidation.

Beginning October 26, fire or explosion insurance policies on the stocks or products listed to be insured by the appropriate Ministers must be made, renewed, modified, or replaced only by the new association.

The decree of October 28 gives further details regarding the State's participation in the activities of the association. The Government receives 90 percent of the premiums paid by insurers. On the other hand, it pays 90 percent of the claims and bears 90 percent of the operating costs. The association is responsible for the remaining 10 percent.

If in any year returns from premiums after payment of all claims exceed 100 million francs (about $2,200,000), the surplus will go to the State. Similarly, when payments for claims exceed returns from premiums, all excess over 100 million francs will be borne by the State. Once a month the association must submit a statement of its operations to the Ministry of Finance.

Cotton insured against war risks - A decree of October 30, 1939, provides that cotton stored in public warehouses must be insured against war risks. This decree does not stipulate the conditions of insurance or the premium to be paid. It is assumed, however, that such insurance must be taken with the War Insurance Association, in accordance with the decree of October 19, which established this organization.

REQUISITIONING OF PRIVATE ENTERPRISES

Central Commission for Settlement of Requisitions - The law of July 11, 1938, empowered the Government in case of war to take partial or total possession of an establishment or enterprise and run it.

The decree of November 4, 1939, established a Central Commission to assure uniform and regular liquidations of such requisitions over the whole French territory and advise members of the Cabinet on questions regarding the settlement of requisitions submitted to them which involve large sums. The Commission is made up of representatives, in equal number, of the Government agencies appointed by the interested Ministers, and of economic, industrial, commercial, and agricultural organizations. The president of the Commission is appointed by the Prime Minister from among the Government representatives.

By the decree of November 29, the right to requisition an establishment may be exercised only for the use of the armed forces, except upon authorization by a commission composed of a representative of the Prime Minister, the Ministers of Finance and Interior, and any other Ministers interested in the particular industry.

Provincial commissions to appraise indemnities for requisitioned property - By instruction from the Prime Minister dated November 8 the prefects of Provinces are authorized to establish commissions for the appraisal of indemnities to be paid for requisitioned property. The membership of the commissions varies from 4 to 24 and is made up, in equal number, of representatives of public administrations and economic, industrial, commercial, and agricultural groups. The members are appointed by the prefects of the Provinces.

CONTROL MEASURES IN 1914-1918 AND IN 1939[10]

In general, French agricultural production, with the exception of that of cereals, was smaller in 1914 than it was 25 years later when the present conflict broke out. Moreover, agriculture was not organized, and no plans had been laid in advance to meet swiftly the requirements of war. The general belief in 1914 was that the war would be over by the end of the year and, mainly for that reason, the principal stress was on the military rather than the economic side of the war. As the conflict continued, however, this neglect of French economy threatened to be fatal to agriculture.

Throughout the early period of the war the principal concern of the Government was that of protecting the consumer from abnormal price increases. This caused the suspension late in July 1914 of the import duties on wheat and, in November of the same year, on all other cereals, potatoes. and meats. Moreover, in order to save the country's food supply, the exportation of certain products was prohibited in the early months of the war.

In September 1914 the Government established a department in the Ministry of Commerce to assist in the provisioning of the population by promoting the importation and distribution of essential foodstuffs. Its specific functions were to investigate existing stocks of foodstuffs, to ascertain quantities to be imported and exported, and to see to it that stocks were maintained and distributed according to requirements. In other words, it was an investigating rather than executive body and did not intervene directly in securing and distributing supplies.

In 1916 this Food Department was attached to the Ministry of Public Works. In April 1917 it became the Ministry of Food and Maritime Transport, and in September 1917 it finally became the Ministry of Food with extensive powers over the supply and distribution of foodstuffs. It was not abolished until February 1921, more than 2 years after the end of the war.

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[10] See *Agriculture and Food Supply in France During the War*, by Michel Augé Laribé and Pierre Pinot, Yale University Press, New Haven, 1927

Upon the outbreak of the World War, the only legislation on agriculture or foodstuffs existing in France was a law of the period of the Revolution, dating back to July 1791, which, although obsolete, had never been repealed. This act authorized the mayors of communities and cities, in case of emergency, to fix the retail prices of bread and meat.

It was not until October 1915, more than 14 months after the war had started, however, that the Government initiated its control over agricultural prices and trade. On October 16, 1915, Parliament authorized the prefects of Provinces to requisition wheat and flour for the supply of the civilian population at a fixed maximum price of 30 francs per quintal. It was by this method that the wartime system of price fixing began. Price fixing was extended in April 1916 to sugar, coffee, potatoes, dried vegetables, milk, bread, and meat, in May 1916 to other cereals, and in October to butter, cheese, and oil cake. In April 1917, when the continuous reduction of the wheat area began to worry the Government, a general policy of compulsory declaration of crop returns was adopted. In July 1917 the sale and distribution of all cereals in France were placed under State control.

The complete control by the Government of agricultural production and trade took place only in the early months of 1918. The law of February 10, 1918, empowered the Government to regulate the production, circulation, trade, possession, and consumption of all food and feedstuffs.

The French meat supply did not cause any concern to the Government during the first 2 years of the World War. At the outbreak of the conflict the Government took over the complete monopoly of chilled and frozen meat imports. Early in 1917 the meat situation became serious, however, and in April 1917 a system of meatless days was established. The sale on Thursdays and Fridays of all types of meats, whether in butcher shops or in restaurants was prohibited.

The rationing of foodstuffs did not begin until the early part of 1918, when the sugar book, the bread ticket, and the food card appeared in succession. The system, which was first tried in Paris, was made compulsory throughout France on June 1, 1918. Although the food card included many commodities, it was compulsory only for bread and sugar. The rationing of other commodities was left for the prefects of Provinces and mayors of communities to apply if and when they saw fit.

Contrary to the policy followed in 1914, in 1939 the economic side of the war from the outset was given as much importance as the military. In fact, even before the outbreak of the war the Government had at its disposal the basic machinery for the control of the country's agricultural economy. As a result of this preparedness, more legislation was adopted during the first 2 weeks of the war to regulate agricultural production, trade, prices, and consumption than was enacted during the first 15 months of the 1914-1918 conflict. Moreover, although hoping for a short war, the Government is wholly prepared to face a long-drawn-out conflict and is gearing its economy for this eventuality. In fact, had the present war been as severe and destructive in its first few weeks as the 1914 conflict, it is safe to say that almost all the control measures affecting agriculture and foodstuffs that it took over 3½ years to enact during that war would already have been put into effect.

AGRICULTURAL PRODUCTION, CONSUMPTION, AND TRADE

ACREAGE AND PRODUCTION OF PRINCIPAL CROPS

In comparing 1913 crop acreages with those of recent years, it is important to keep in mind the fact that as a result of the reacquisition in 1919 of Alsace-Lorraine France is 5,600 square miles larger now than it was prior to the 1914-1918 conflict. Yet, in spite of this increase in territory, the total plowland of France during the 10-year period 1928-1937 was 5.8 million acres smaller than that of 1913, a decline of 10 percent. When compared with the size of the total French territory during the two periods, plowland represented 45 percent of the territory in 1913 and only 39 percent in 1928-1937. About two-thirds of the loss in acreage was caused by the land's becoming barren and waste and about one-third by reforestation.

Almost all of the decrease in arable land was borne by the cereal crops, with wheat being affected most. Other declines were registered in the potato acreage and in vineyards. On the other hand, substantial increases in acreage took place in feed and vegetable crops, and small favorable changes were registered in sugar and tobacco. See tables 1 and 2.

The tendency, first observable at the end of the nineteenth century, to reduce the cereal acreage and enlarge that in permanent grasses and meadows has continued to this day. Thus, meat and dairy products are slowly replacing wheat as the cash crop.

TABLE 1.-*Land utilization in France, by category of crop, averages 1904-1913, 1914-1923, 1924-1933, 1928-1937*

CATEGORY	1904-1913	1913-1923	1924 1933	1928 1937
	1,000 acres	*1,000 acres*	*1,000 acres*	*1,000 acres*
Plowland	[1] 58,442	54,159	54,234	52,652
Forests	[1] 24,431	24,708	25.728	25,975
Barren and waste land	9,373	11,147	12,229	13,074
Feed crops[2]	36,596	37,515	40,762	41,463
Cereals	33,475	26,417	27,428	26,870
Tuber crops	4,030	3,662	3,894	3,852
Vineyards	4,030	3,773	3,781	3,783
Vegetable crops	1,105	1,250	1,411	1,698
Industrial crops	956	479	867	932
Nurseries	32	35	47	49

[1] Figures for 1913 only

[2] Includes meadows and permanent grasses.

Compiled from *Statistique Agricole Annuelle*, France. 1937.

As a result of the reduction in the cereal acreage between 1913 and 1936-1937, all cereal crops were smaller. Because of the use of improved production methods in recent years, however, the reduction in the production of corn and wheat has not been proportionate to the decline in acreage. See table 3.

TABLE 2.–*Acreage of principal crops in France, 1913, 1918, average 1936-1937*

COMMODITY	1913	1918	AVERAGE 1936-1937	CHANGE 1936-1937 IS FROM– 1913	CHANGE 1936-1937 IS FROM– 1918
	1,000 acres	*1,000 acres*	*1,000 acres*	*Percent*	*Percent*
Wheat	16,165	10,993	12,726	-21	+16
Rye	2,906	1,745	1,636	-44	-6
Corn	1,132	754	848	-25	+12
Barley	1,878	1,371	1,848	-2	+35
Potatoes	3,825	2,940	3,534	8	+20
Wines	3,830	3,734	3,741	2	(1)
Sugar beets	744	210	776	+4	+270
Feed crops[2]	37,811	35,943	42,755	+13	+19
Tobacco	38.7	20.2	45.4	+17	+125

[1] Less than one-half of 1 percent.

[2] Includes meadows and permanent grasses.

Compiled from *Statistique Agricole Annuelle*, 1937

More striking yet is the fact that, although the 1936-1937 acreage under potatoes and vineyards was smaller than in 1913, production in 1936-1937 was larger. Sugar and tobacco are also noteworthy because of the greater proportionate increase in production than in acreage during the two periods. Another important development is the change that has taken place in fruit production since 1913. See table 3.

TABLE 3.–*Production of principal crops in France, 1913, 1918, average 1936 1937*

CROP	UNIT	1913	1918	AVERAGE 1936-1937	CHANGE 1936-1937 IS FROM– 1913	CHANGE 1936-1937 IS FROM– 1918
		Thousands	*Thousands*	*Thousands*	*Percent*	*Percent*
Wheat	Bushel	319,366	225,731	256,224	-20	+14
Rye	do.	50,052	28,932	28,632	-43	-1
Corn	do.	21,381	9,759	20,586	-4	+111
Barley	do.	47,936	27,475	46,338	-3	+69
Potatoes	do.	499,187	239,553	572,496	+15	+139
Wines	Gallon	1,171,224	1,192,992	1,294,354	+11	+9
Sugar	Sh.ton	791	122	900	+14	+638
Butter	Pound	[1] 369,000	[2] 382,000	530,000	+44	+39
Cheese	do.	[1] 499,000	[2] 507,000	485,000	-3	-4
Tobacco	do.	57,000	20,000	75,000	+32	+275
Cider apples and perry pears	Bushel	235,473	9,333	174,930	-26	+1,774
Table apples and pears	do.	8,685	1,043	12,318	+42	+1,081
Walnuts	Sh.ton	40	35	44	+10	+26
Prunes	do.	14	1	9	-36	+800

[1] 1909-1913 average.

[2] Figures for 1923

Compiled from *Statistique Agricole Annuelle*, 1937

With the exception of cereals, therefore, the present production of most foodstuffs exceeds that of 1913. It is certain, however, that this production will be reduced if the present war continues. The mobilization of a large portion of the country's farmers and the evacuation of some northern sections near the front may soon show their adverse effect on agricultural production. This will probably take place despite the increase in working hours and the greater employment of women and children in the fields.

Despite an increase of 13 percent in the acreage under feed crops between 1913 and 1936, the total number of livestock declined from 55.5 million to 43 million. The principal reduction occurred in the sheep and goat population, which fell from 17.5 million to 10.6 million, a decline of 40 percent.

TABLE 4.–*Livestock numbers in France, 1913, 1918, average 1936-1937*

KIND	1913	1918	AVERAGE 1936-1937	CHANGE 1936-1937 IS FROM–	
				1913	1918
Cattle -	*Thousands*	*Thousands*	*Thousands*	*Percent*	*Percent*
Dairy cows	7,795	6,238	8,770	+13	+41
Heifers and calves	4,866	4,526	5,498	+11	+12
Others	2,127	1,487	1,516	-29	+10
Total	14,788	12,251	15,784	+11	+29
Sheep -					
Breeding ewes	9,289	5,572	6,177	-34	+11
Sheep under 1 year	3,968	2,261	2,012	-49	-11
Others	2,874	1,228	1,212	-58	-1
Total	16,131	9,061	9,401	-32	+4
Goats	1,435	1,197	1,252	-13	+5
Hogs	7,036	3,980	7,102	+1	+78

Compiled from *Statistique Agricole Annuelle*, 1937.

PRINCIPAL AGRICULTURAL IMPORTS[9]

Not only do French imports of agricultural products exceed exports, but agricultural imports are mainly responsible for the country's passive balance of trade. In 1937, out of a total trade deficit of 18.4 billion francs (about $744,000,000),[10] net imports of agricultural products were responsible for 14.8 billion francs (about $600,000,000), or over 80 percent. More than 50 percent of the agricultural deficit, however, generally results from imports from French possessions. These are mainly of food products, while agricultural items used in industry are imported chiefly from foreign countries.

Many changes have taken place in the agricultural import trade of France since 1913. Imports of certain products have increased and others have declined, but in general the value and quantity of imports have increased. See table 5.

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[9] Agricultural imports may be increased by the seizure of products destined to the countries at war with France. Such products were designated by France as "conditional contraband" on September 4, 1939.

[10] Conversion has been made at the rate of 4.046 cents per franc, the average for 1937.

TABLE 5. *Total imports and imports from French possessions into France of specified agricultural products, 1913, 1918, 1937, and 1938*

PRODUCT	UNIT	1913			1918			1937			1938		
		TOTAL	FROM COL-ONIES	SHARE FROM COL-ONIES	TOTAL	FROM COL-ONIES	SHARE FROM COL-ONIES	TOTAL	FROM COL-ONIES	SHARE FROM COL-ONIES	TOTAL	FROM COL-ONIES	SHARE FROM COL-ONIES
		Thousands	*Thousands*	*Percent*	*Thousands*	*Thousands*	*Percent*	*Thousands*	*Thousands*	*Percent*	*Thousands*	*Thousands*	*Percent*
Wheat	Bu.	57,160	4,141	7	43,820	1,262	3	16,988	8,904	52	17,339	9,951	57
Corn	do.	23,259	4,293	18	5,520	70	1	29,535	23,508	80	27,875	26,833	96
Barley	do.	5,330	3,146	59	10,687	3,710	35	5,767	3,751	65	3,382	2,015	60
Rye	do.	1,836	5	(1)	875	(2)	-	31	31	100	26	26	100
Potatoes	do.	8,490	766	9	1,153	463	40	5,901	3,000	51	5,681	2,776	49
Rice[3]	Lb.	537,935	476,494	89	379,862	144,620	38	1,477,257	1,437,745	97	1,168,312	1,136,308	97
Sugar	do.	253,435	213,732	84	417,493	128,424	31	853,596	456,659	53	698,865	423,935	61
Meats-													
Beef- fresh	do.	5,098	0	0	475,441	5,143	1	673	557	83	184	148	80
salted and frozen	do.	67	29	43	100	0	0	28,743	13,963	49	27,217	17,571	65
Pork- fresh	do.	957	0	0	7,169	37	1	71	60	85	47	45	96
salted and frozen	do.	12,518	167	1	112,642	88	(1)	5,156	608	12	1,306	1,083	83
Mutton- fresh	do.	975	0	0	29,944	0	0	13,410	9,319	69	9,745	6,627	68
frozen	do.	(4)	(4)	-	(4)	(4)	-	10,056	1,760	18	8,132	2,491	31
Prepared and preserved (all meats)	do.	6,541	5,696	87	72,378	6,613	9	180	5	3	14,992	14,551	97
Lard	do.	11,734	1,873	16	42,570	425	1	516	504	98	173	125	72
Fats, other than lard	do.	12,238	84	1	3,510	4	(1)	139	125	90	2,430	327	13
Butter	do.	13,034	56	(1)	1,067	4	(1)	1,495	7	(1)	1,341	6	(1)
Cheese	do.	51,864	6	(1)	11,185	3	(1)	27,489	29	(1)	31,452	51	(1)
Oilseeds-													
Peanuts, unshelled	do.	563,745	401,072	71	162,789	161,233	99	1,083,558	1,066,039	98	856,373	829,471	97
Peanuts, shelled	do.	524,152	176,477	34	21,216	10,867	51	893,516	414,993	46	1,012,344	423,441	42
Copra	do.	248,325	19,471	8	47,096	5,076	11	303,362	111,727	37	314,926	103,425	33
Flaxseed	do.	523,386	5,139	1	57,569	2,927	5	604,135	21,318	4	448,079	13,036	3
Sesamo seed	do.	45,384	1,791	4	5,115	1,795	35	476	17	4	1,124	263	23
Cottonseed	do.	38,954	1,242	3	2,461	2,460	100	1	0	0	2	0	0
Hempseed	do.	30,032	0	0	697	0	0	18,206	6	(1)	20,804	134	1
Palmnut	do.	6,583	4,924	75	90,259	41,228	46	154,593	154,593	100	194,080	194,079	100
Wines	Gal.	201,022	125,840	63	156,450	62,514	40	315,282	310,612	99	413,984	413,155	100
Fruits-													
Oranges	Bx.	3,566	104	3	1,878	120	6	5,824	1,792	31	4,771	1,350	28
Bananas	Lb.	56,668	116	(1)	14,409	52	(1)	330,792	329,097	99	393,295	393,290	100
Apples and pears	Bu.	327	3	1	452	(2)	-	1,662	10	1	2,520	7	(1)
Coffee	Lb.	254,150	2,313	1	300,303	4,306	1	408,554	88,403	22	410,654	130,807	32
Tobacco	do.	81,781	1,557	6	110,971	8,365	8	56,214	27,032	48	57,050	26,350	46
Cotton	Bale	1,518	4	(1)	656	4	1	1,296	23	2	1,279	48	4
Wool	Lb.	596,424	21,350	4	89,247	12,361	14	442,652	41,835	9	512,296	33,336	7
Rubber	do.	38,450	32,442	84	41,831	35,809	86	149,054	25,898	17	142,627	35,426	25

[1] Less than one-half of 1 percent.
[2] Less than 500 bushels.
[3] Total in terms of cleaned rice.
[4] Not separately classified.

Compiled from *Tableau Général du Commerce Extérieur*, Paris, 1913, 1918, 1937, and 1938.

Since 1913 the French possessions have made great progress in supplying the mother country with increasing quantities of foodstuffs, especially of rice, bananas, corn, mutton, potatoes, oilseeds, coffee, wines, and sugar. Yet, countries outside the French Empire continue to supply the following percentages of imports: Almost all the cotton, butter, cheese, and apples and pears; over 90 percent of the wool; about 75 percent of the rubber; 70 percent of the coffee; 70 percent of the oranges; 50 percent of the tobacco; and 40 percent of the oilseeds, sugar, and frozen beef.

PRINCIPAL AGRICULTURAL EXPORTS

French agricultural exports are not large and are made up mainly of a limited number of high-priced specialty products. In fact, at present they are not as important as they were in 1913. Exports of butter, wines, prunes, and walnuts have decreased considerably, and to a lesser extent those of potatoes, cheese, and apples and pears. On the other hand, exports of wheat and wheat flour, flax, dried apples and pears, almonds, and dried vegetables have increased greatly since 1913.

Almost all the sugar exported from France goes to French possessions, and 90 percent of the butter exports, and 80 and 60 percent, respectively, of the potatoes and cheese find their way to the French Empire. See table 6.

Of French agricultural specialty products, the best known throughout the world are still and sparkling wines, liqueurs, Roquefort cheese, and shelled walnuts.

CONSUMPTION OF PRINCIPAL FOODSTUFFS

Not many changes have taken place in the last 25 years in the consumption habits of the French people. Yet, the few that have occurred have had an important effect on the French diet. The most outstanding change has been the reduction in the per-capita consumption of wheat from 10.6 bushels in 1913 to 6.3 bushels in 1936-1937. This, however, has not been accompanied by any rise in meat consumption, despite the increase in the acreage under feed crops. In fact, the per-capita consumption of beef, pork, and mutton fell from 49.2, 47, and 9.5 pounds, respectively, in 1909-1913 to 48.4, 39.6, and 6.5 pounds in 1936-1937.

France, which has always had the highest per-capita consumption of wine in the world, increased that consumption from 33.4 gallons in 1913 to 38.1 gallons in 1936-1937. During the same period, per-capita consumption of sugar rose from 38 to 47.8 pounds, of butter from 8.5 to 12.5 pounds, and of coffee from 6.4 to 9.8 pounds.

The increase in fruit production and imports is taking fruits from the "luxury class" and making them more available to the majority of consumers. This is indicated by the great increase in the per-capita consumption of several fruits in the past 25 years. Thus, from 1913 to 1936-1937 the per-capita consumption of bananas increased from 1.4 to 9.4 pounds, that of apples from 8.7 to 15 pounds, and that of oranges from 6.4 to 8 pounds.

TABLE 6.–*Total exports from France and exports to the French possessions of specified agricultural products, 1913, 1918, 1937, and 1938*

PRODUCT	UNIT	1913		1918		1937		1938	
		TOTAL	TO COLONIES	TOTAL	TO COLONIES	TOTAL	TO COLONIES	TOTAL	TO COLONIES
		Thousands	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*	*Thousands*
Wheat	Bushel	59	31	78	(1)	925	87	2,663	26
Wheat flour	Barrel	231	224	176	5	1,305	415	918	399
Potatoes	Bushel	6,654	1,076	630	433	2,022	1,677	3,297	2,808
Sugar	Pound	442,554	168,226	136,914	55,818	443,543	434,461	421,768	411,228
Cheese	do.	31,405	6,412	4,428	2,696	24,746	15,581	26,501	16.354
Butter	do.	38,360	3,409	2,360	1,040	6,629	5,221	6,450	5,498
Wines–									
Still	Gallon	34,798	5,738	8,611	1,141	16,905	5,090	21,625	5,760
Sparkling	do.	5,393	150	1,713	57	3,116	415	2,851	460
Liqueurs	do.	3,634	629	1,149	393	2,690	952	2,701	931
Fresh fruits–									
Cider apples and perry pears	Box	9,617	0	(2)	0	768	(2)	5,333	(2)
Table apples and pears	do.	1,595	60	575	20	440	110	1,025	113
Oranges	do.	39	(2)	47	0	19	(2)	33	1
Dried fruits–									
Apples and pears	Pound	140	1	10	4	15,085	29	3,487	50
Prunes	do.	9,673	441	369	208	4,477	646	3,601	876
Nuts–									
Walnuts, unshelled[3]	do.	50,626	775	16,546	422	21,201	1,178	22,010	1,205
Almonds, shelled[4]	do.	135	49	75	44	2,855	31	1,373	68
Hides and skins	do.	139,494	959	4,379	358	131,387	202	113,203	287
Wool	do.	79,600	553	863	1	75,682	656	53,174	399
Flax	do.	222	0	168,479	0	285,188	(1)	208,178	0
Dried vegetables–									
Beans	do.	2,901	2,420	733	245	14,651	10,634	16,845	12,081
Peas	do.	13,973	1,869	49	32	20,803	2,846	47,186	2,637
Others	do.	22,829	19,101	3,587	1,045	6,137	1,572	3,679	2,256

[1] Less than 500.

[2] Less than 500 boxes.

[3] Shelled and unshelled reduced to unshelled.

[4] Shelled and unshelled reduced to shelled.

TABLE 7.—*Consumption and net imports of principal agricultural products in France, 1913, 1918, and average 1936-1937*

PRODUCT	UNIT	CONSUMPTION (PRODUCTION PLUS NET IMPORTS)	NET IMPORTS	PERCENT NET IMPORTS ARE OF CONSUMPTION	PER-CAPITA CONSUMPTION
1913					
		Thousands	*Thousands*	*Percent*	
Wheat	Bushel	375,917	56,551	15.0	10.6
Rye	do.	51,879	1,827	3.5	1.3
Corn	do.	44,545	23,164	52.0	1.1
Barley	do.	52,827	4,891	9.3	1.3
Potatoes	do.	501,024	1,837	0.4	12.6
Wines	Gallon	1,328,432	157,208	11.8	33.4
Sugar	Pound	1,512,000	[1] 69,000	0	38.0
Butter	do.	[2] 337,000	[1] 32,009	9.5	8.5
Cheese	do.	[2] 516,000	17,000	3.3	13.0
Tobacco	do.	138,707	81,707	58.9	3.5
Cider apples and perry pears	Bushel	226,134	[1] 9,289	0	5.9
Table apples and pears	do.	7,097	[1] 1,588	0	0.2
Walnuts	Pound	34,000	[1] 46,000	0	0.9
Prunes	do.	36,000	8,000	22.2	0.9
1918					
Wheat	Bushel	298,828	73,097	24.5	7.7
Rye	do.	29,806	874	2.9	0.8
Corn	do.	15,274	5,515	36.1	0.4
Barley	do.	38,149	10,674	28.0	1.0
Potatoes	do.	240,075	522	0.2	6.2
Wines	Gallon	1,337,968	144,976	10.8	34.5
Sugar	Pound	916,000	672,000	73.4	23.6
Butter	do.	[3] 383,500	1,500	0.4	9.9
Cheese	do.	[3] 519,500	12,500	2.4	13.4
Tobacco	do.	130,965	110,965	84.7	3.4
Cider apples and perry pears	Bushel	9,353	20	0.2	0.2
Table apples and pears	do.	920	[1] 123	[1] 0	(4)
Walnuts	Pound	94,000	24,000	25.5	2.4
Prunes	do.	2,643	643	-	0.1
Average 1936-1937					
Wheat	Bushel	264,719	8,495	3.1	6.3
Rye	do.	28,671	39	0.1	0.7
Corn	do.	45,230	24,644	54.5	1.1
Barley	do.	56,360	10,022	17.8	1.3
Potatoes	do.	576,086	3,590	0.6	13.7
Wines	Gallon	1,599,628	305,274	19.1	38.1
Sugar	Pound	2,006,000	206,000	10.3	47.8
Butter	do.	525,500	[1] 4,500	0	12.5
Cheese	do.	491,000	6,000	1.2	11.7
Tobacco	do.	135,042	60,042	44.5	3.2
Cider apples and perry pears	Bushel	173,043	[1] 1,887	0	4.1
Table apples and pears	do.	12,908	590	4.6	0.3
Walnuts	Pound	64,000	[1] 24,000	0	1.5
Prunes	do.	58,000	40,000	69.0	1.4

[1] Net exports.

[2] 1909-1913 average.

[3] Figures for 1923.

[4] Less than five-hundredths of a bushel.

Compiled from official sources.

SUMMARY AND CONCLUSIONS

France entered the present war with almost no Government control over agriculture: yet it was not, as in 1914, wholly unprepared. Plans for the economic mobilization of the Nation in the eventuality of war were drawn as early as July 1938; the power to govern by decree and thus avoid delay in applying necessary measures was given to the Cabinet in March 1939; and in April 1939 the foundations were laid to assure the provisioning of the Nation in time of war. This early legislation enabled the Government to act swiftly upon the outbreak of hostilities, and in less than 2 weeks the framework of France's wartime agricultural economy had been erected.

For the present, however, regulation, advice, and assistance are the order of the day. Farmers are advised, but not compelled, to produce more and spend less. The Government encourages private enterprise to produce all it can without attempting any rigid control over it. The machinery to use the most complete regulation and control over agricultural production, consumption, and trade is ready, however, and could be set in motion almost over night. Several months prior to the outbreak of hostilities the mayors of all French communities had received instructions to print food-ration cards modeled after those of 1918 and have them ready for distribution at a moment's notice. Such control may include the establishment of a Ministry of Food, the fixing of all prices, the management of agricultural production, and the rationing of foodstuffs.

So far, foodstuffs have been ample, although measures are being taken to assure the supply of stocks. If the war continues well into 1940, the mobilization of a large portion of the country's farmers, coupled with the evacuation of some northern sections near the front, may affect this year's crop production. The increase in working hours and the employment of more women and children in the fields will only partly fill the wide gap left by millions of mobilized farmers.

The French possessions which in recent years have supplied France with large quantities of foodstuffs, are being encouraged to send still greater shipments. On the French North-African possessions will fall a large part of the burden. They will be required to increase their exports of cereals, wines, tobacco, fruits and vegetables, sugar, and meat products. From French West Africa will be demanded increasing quantities of oils, oilseeds, rubber, and coffee, while Indochina will continue to send large shipments of rice.

Despite the probable increase in imports of agricultural products from its possessions, France will continue to depend on countries outside the French Empire for all cotton requirements and a large portion of the rubber, coffee, and wool consumed. Substantial quantities of frozen meats and tobacco may also have to be imported from these countries.

Exports of American farm products to France will be adversely affected by the war in Europe. Present United States laws requiring French importers to pay cash for all products purchased here and to carry them from American shores in non-American bottoms will lead the French to buy in the United States only the agricultural necessities they cannot obtain under more favorable conditions. Because they need to conserve their foreign exchange to purchase armaments in this country, they will seek their main agricultural imports from their possessions and from countries accepting francs or sterling in payment. Another reason for the probable decrease in French imports of certain American agricultural products is the new tendency in France to restrict as much as possible the consumption of what is termed in wartime "luxury" products. This restriction will adversely affect American exports of fresh fruits and tobacco, the two most important items, after cotton, in the agricultural trade with France.

The Anglo-French economic and financial agreements will also limit the sale of American farm products to France. As a result of these agreements, France will be able to purchase from the countries of the British Empire, and pay in francs, many agricultural products that otherwise would have been imported from the United States and paid for in dollars. Moreover, those farm products that cannot be obtained advantageously elsewhere by France and the United Kingdom will be ordered from the United States cooperatively via London, thus avoiding any price competition. In the 1914-1918 conflict similar economic and financial agreements between the Allies were entered upon only at the end of the third year of the war.

The bulk of the agricultural imports, and particularly of foodstuffs, from the possessions is unloaded in French Mediterranean seaports. So far during the present war, submarine warfare has not affected shipping lanes in that sea. The continuation of the present unhampered shipping between France and its possessions, *i.e.*, the key to the French food problem during this war, will depend to a great extent on the attitude of Italy. If Italy remains neutral or joins the Franco-British alliance, France and the British fighting forces on French soil will be assured of an adequate flow of foodstuffs for the duration of hostilities. If, on the other hand, Italy chooses to enter the conflict on the side of Germany, Italian submarines and air forces may interfere with French-North African shipping, thus seriously affecting French food supplies.

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